

Figure 1

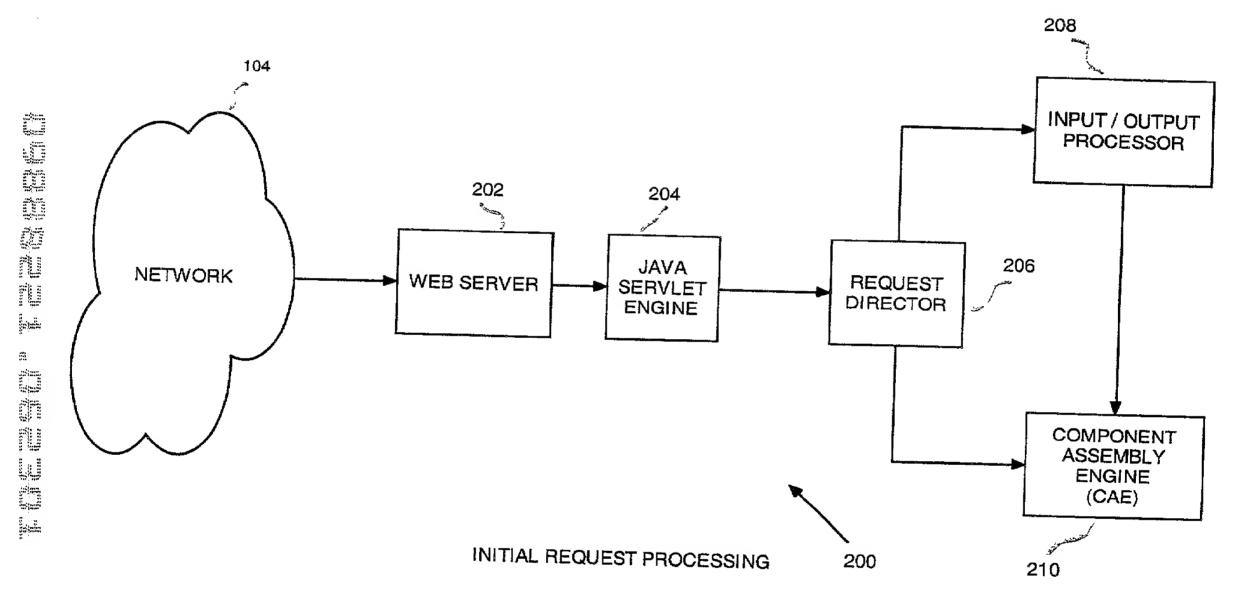


Figure 2

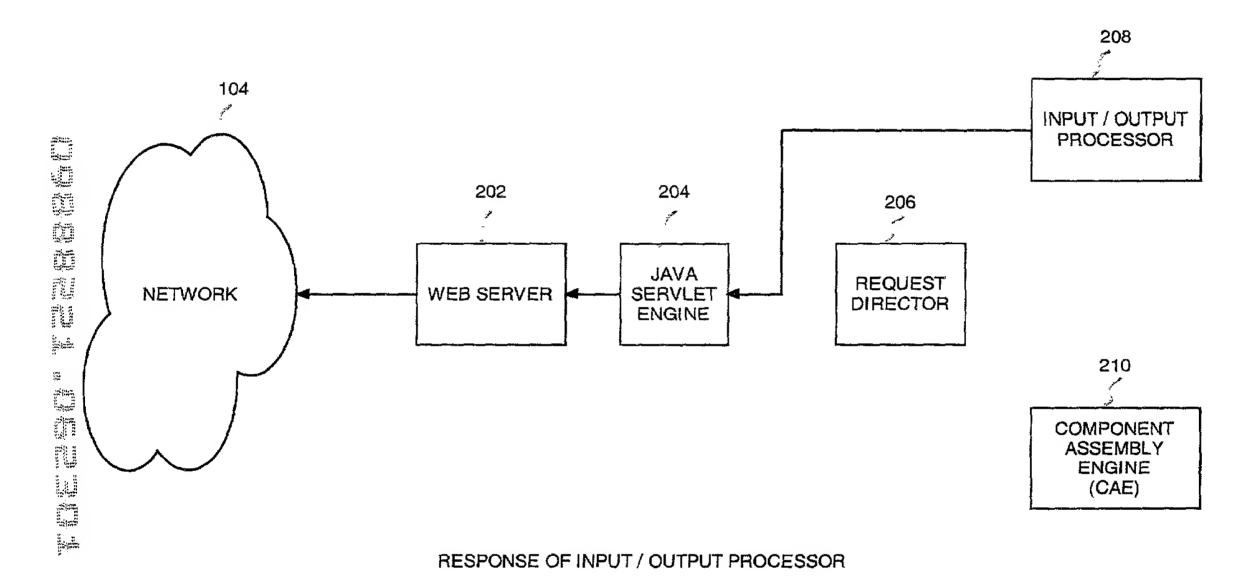
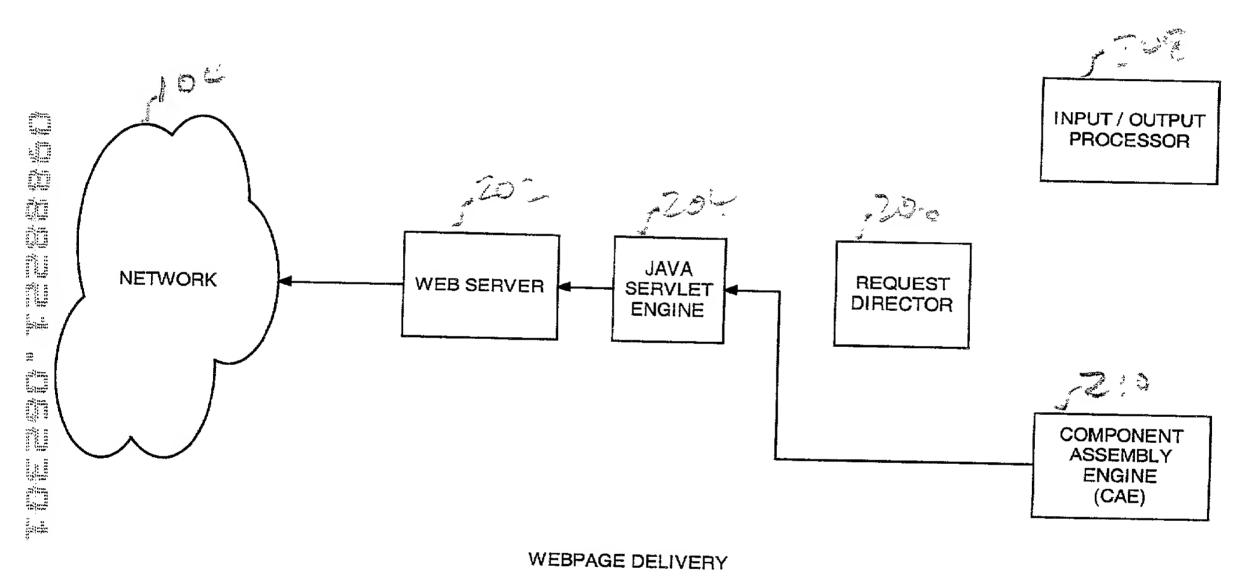
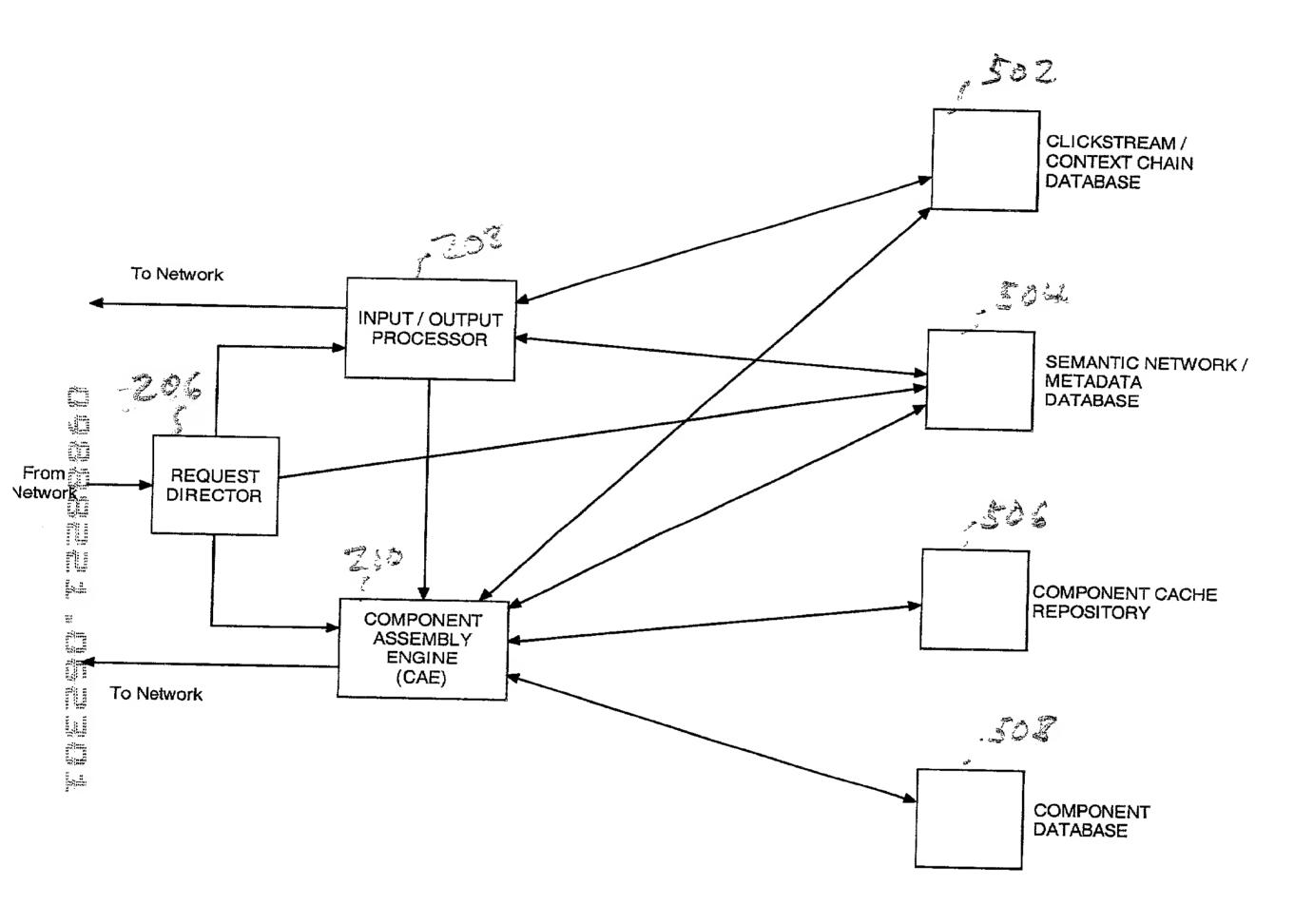


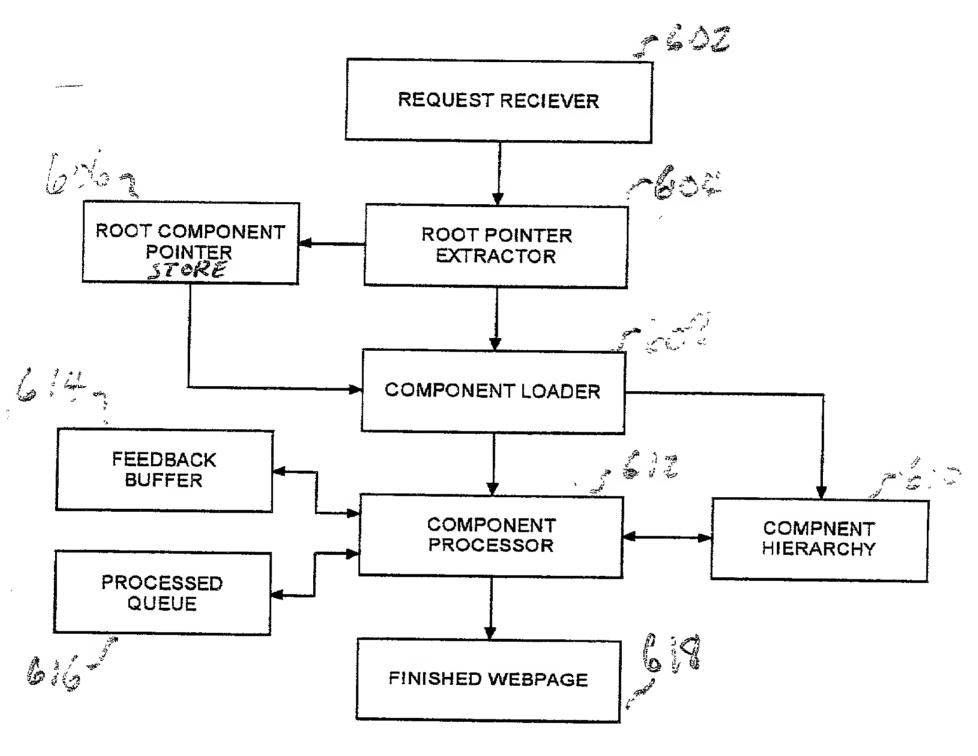
Figure 3





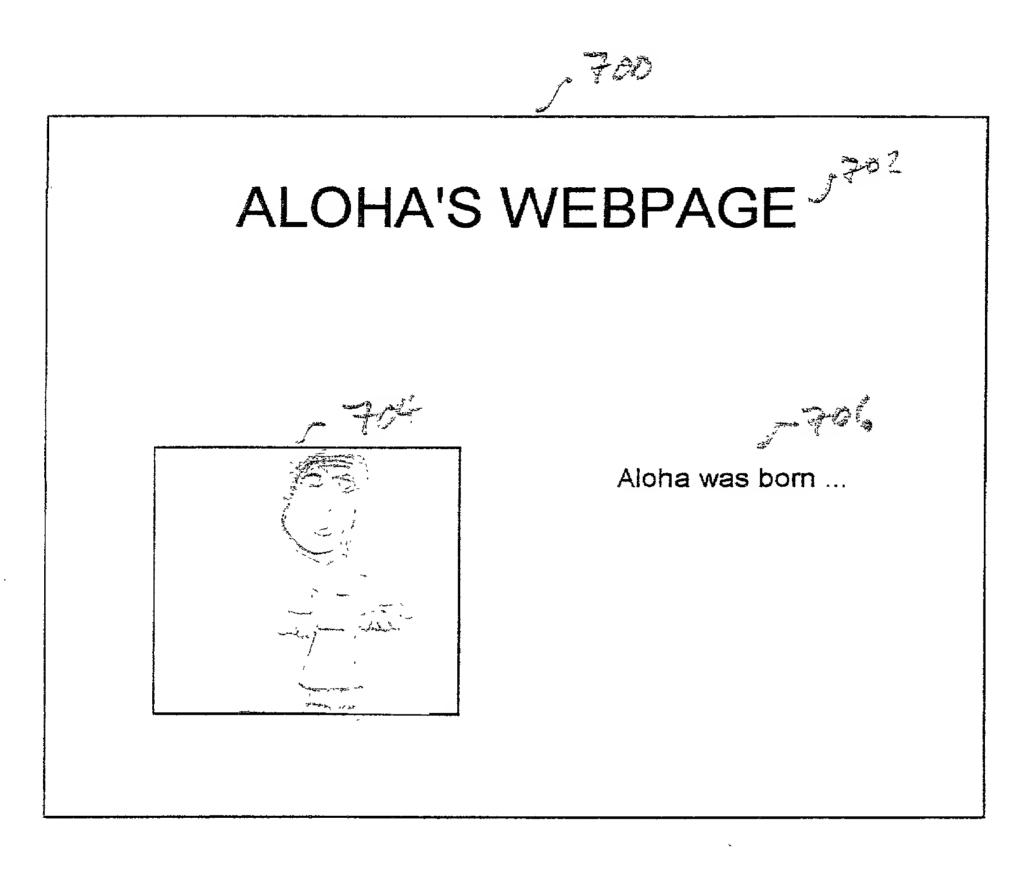
BACKEND DATABASES

Figure 5



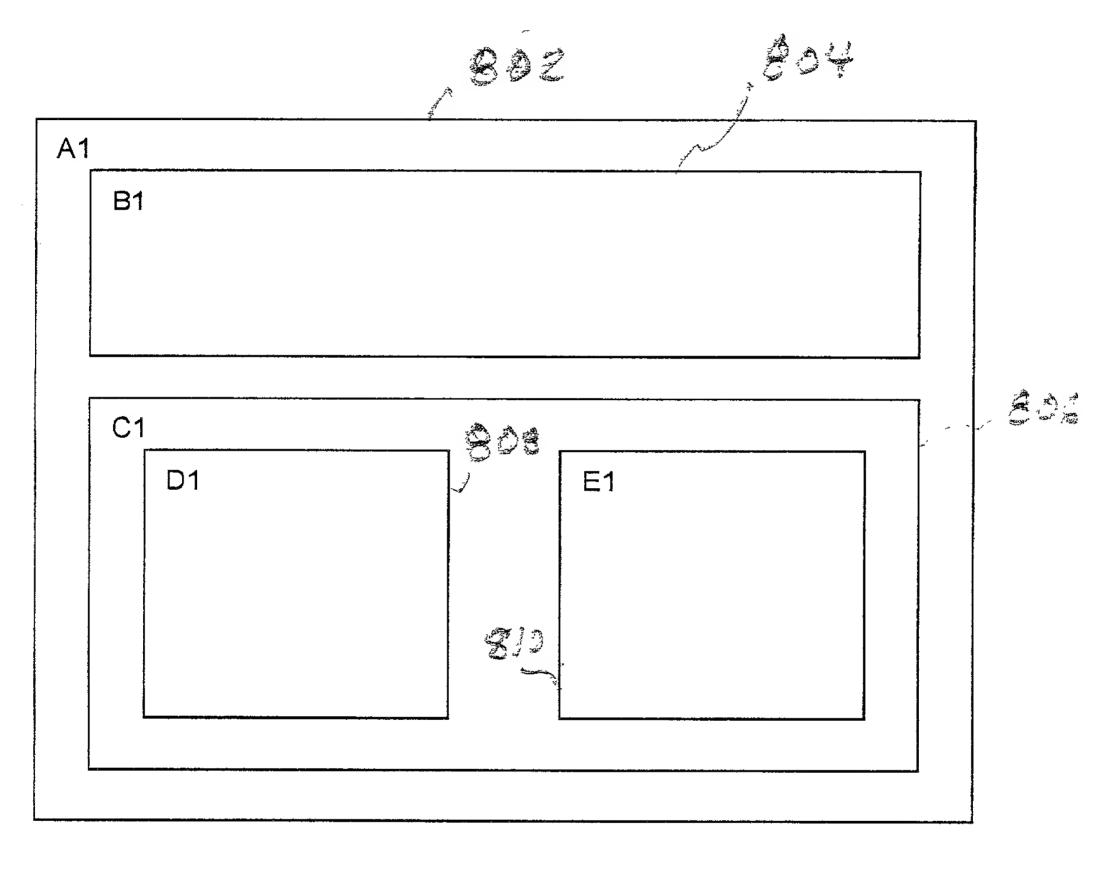
COMPONENT ASSEMBLY ENGINE (CAE)

Figure 6



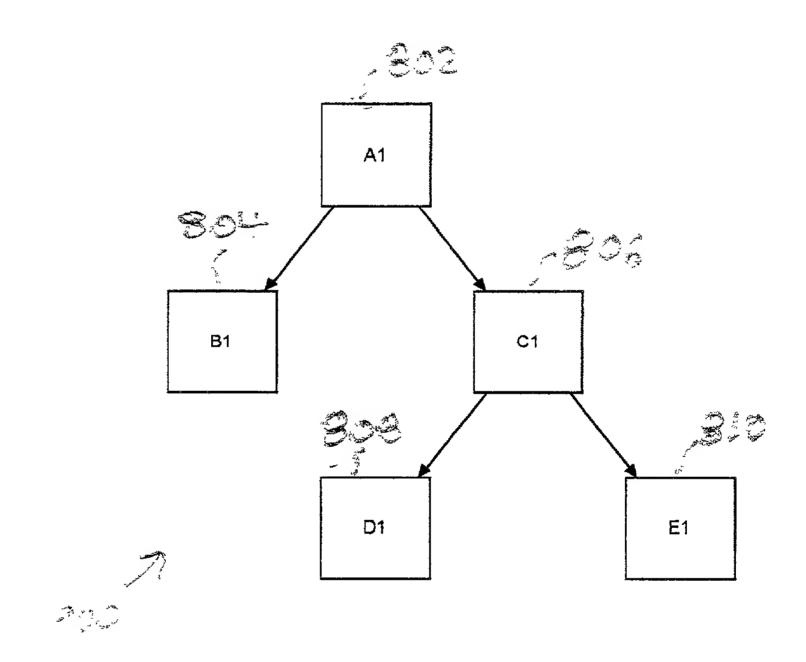
EXAMPLE WEBPAGE

Figure 7



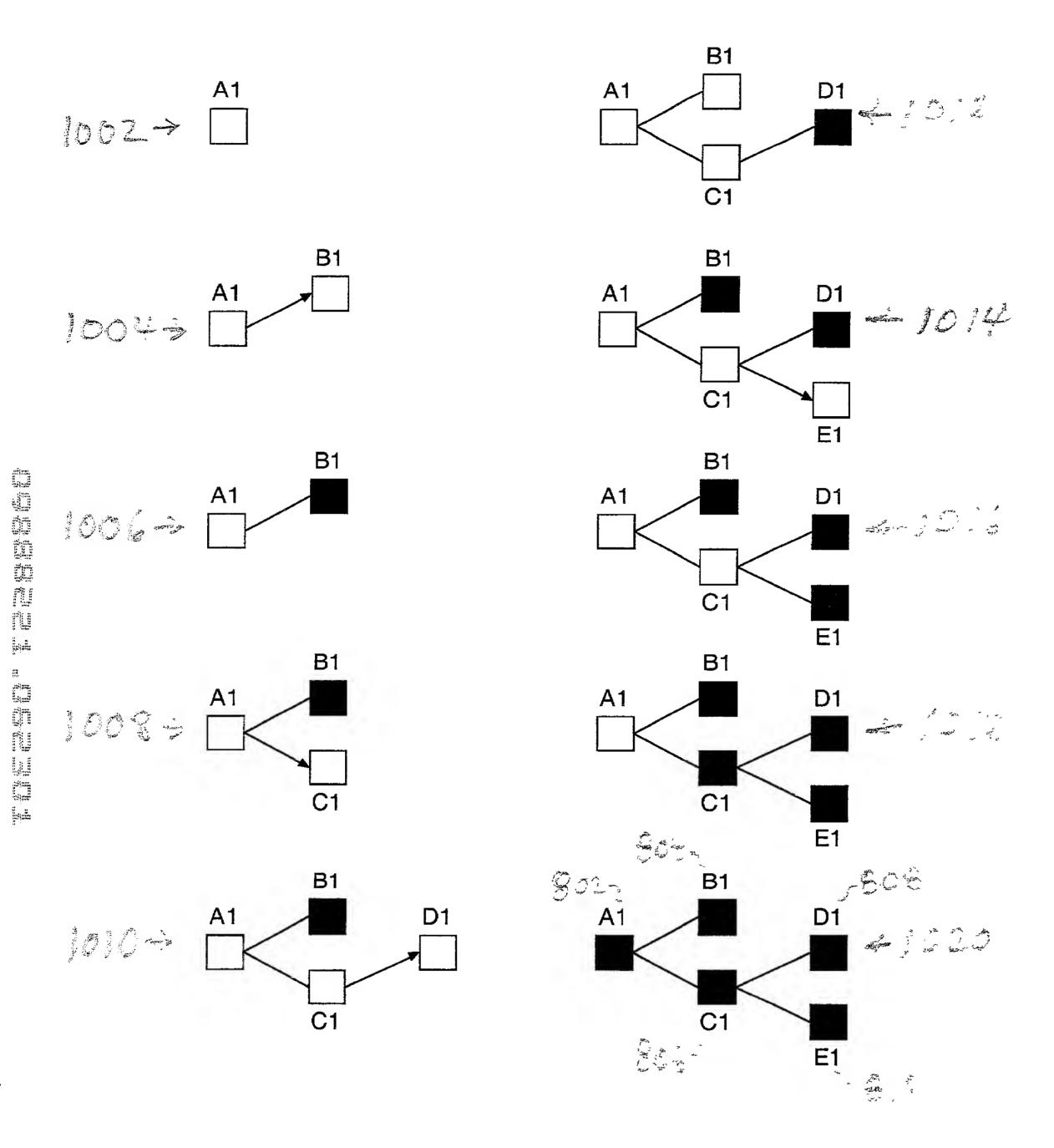
COMPONENT MAKEUP OF EXAMPLE WEBPAGE

Figure 8



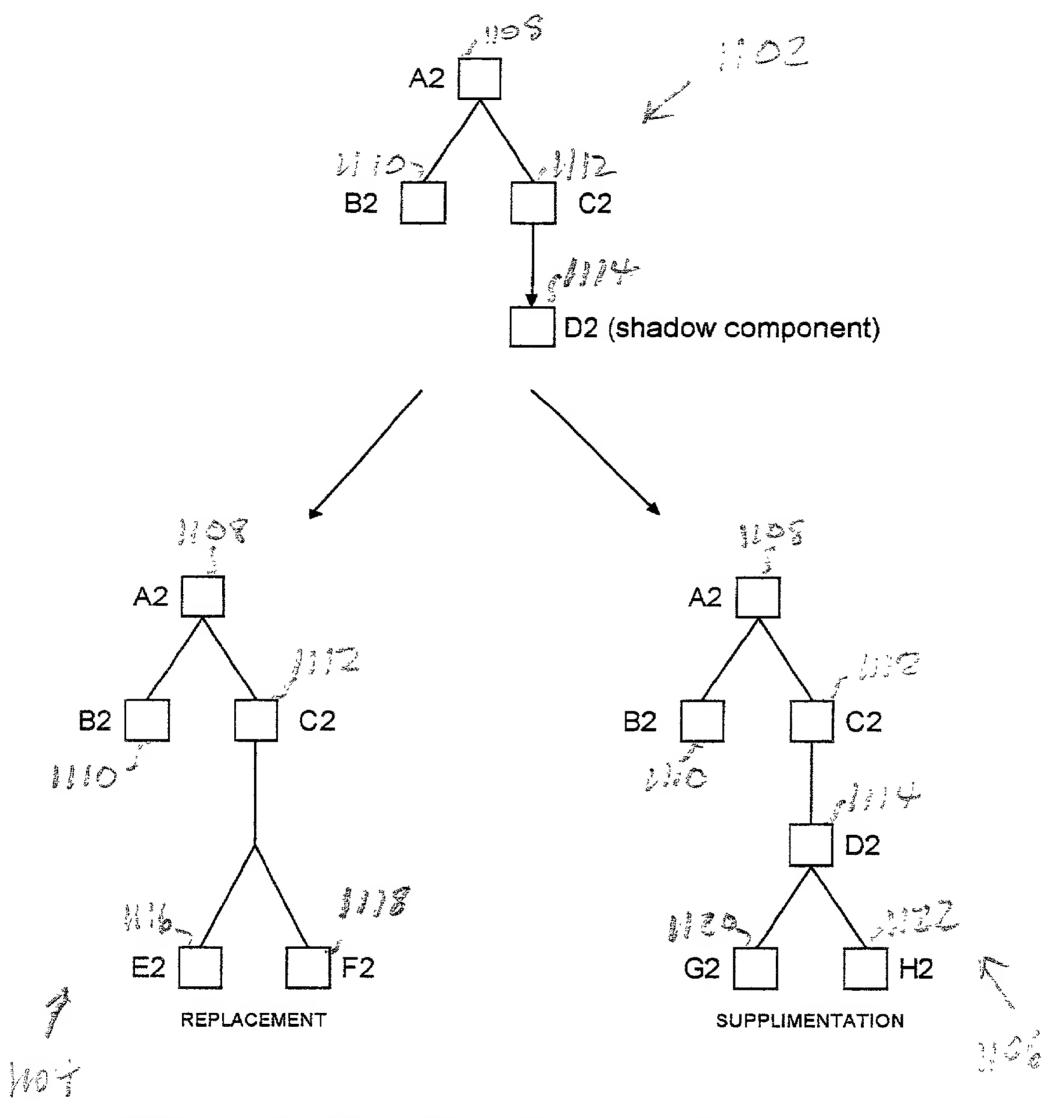
EXEMPLARY HIERARCHICAL TREE REPRESENTATION

Figure 9

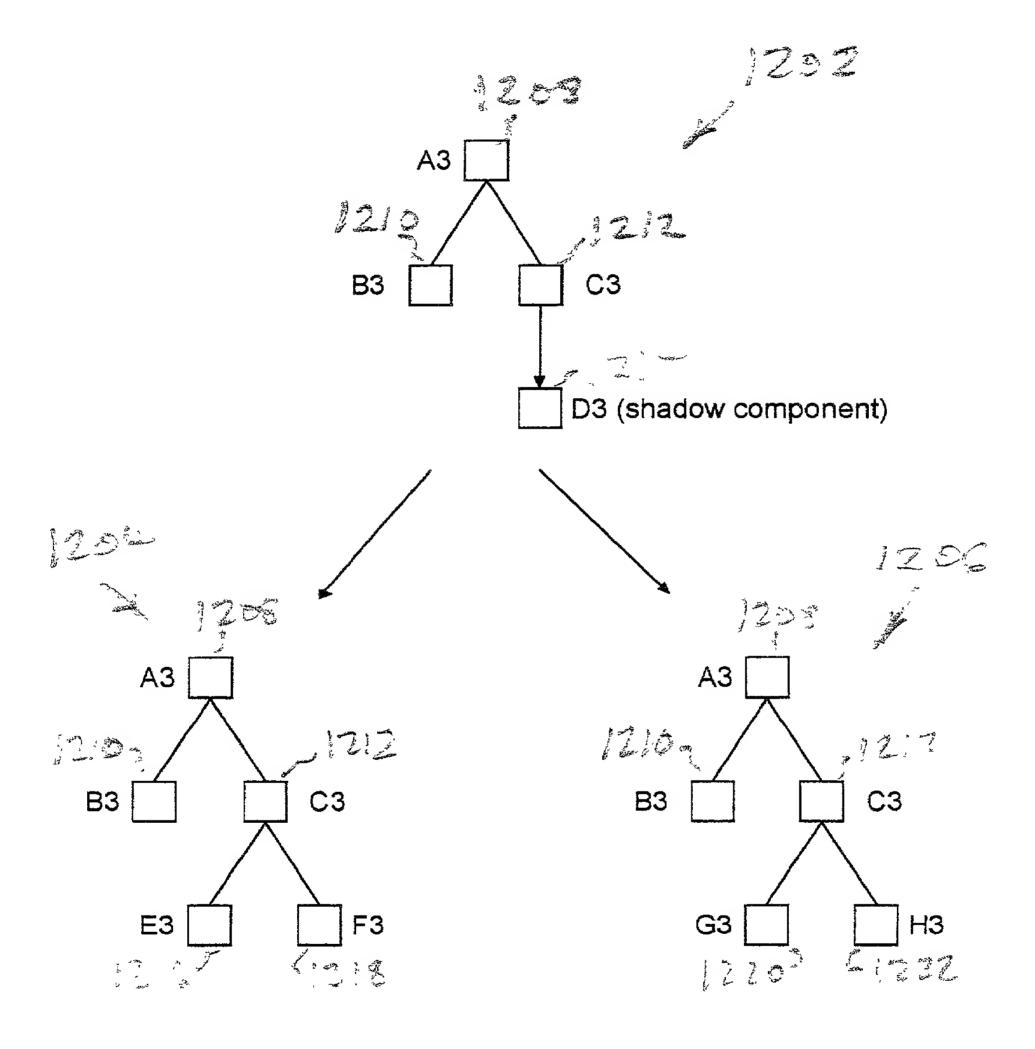


COMPONENT LOADING AND PROCESSING

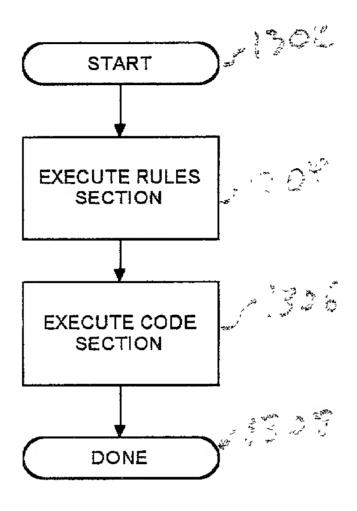
Figure 10



SHADOW COMPONENT RESOLUTION CONTRASTING REPLACEMENT AND SUPPLIMENTATION Figure //

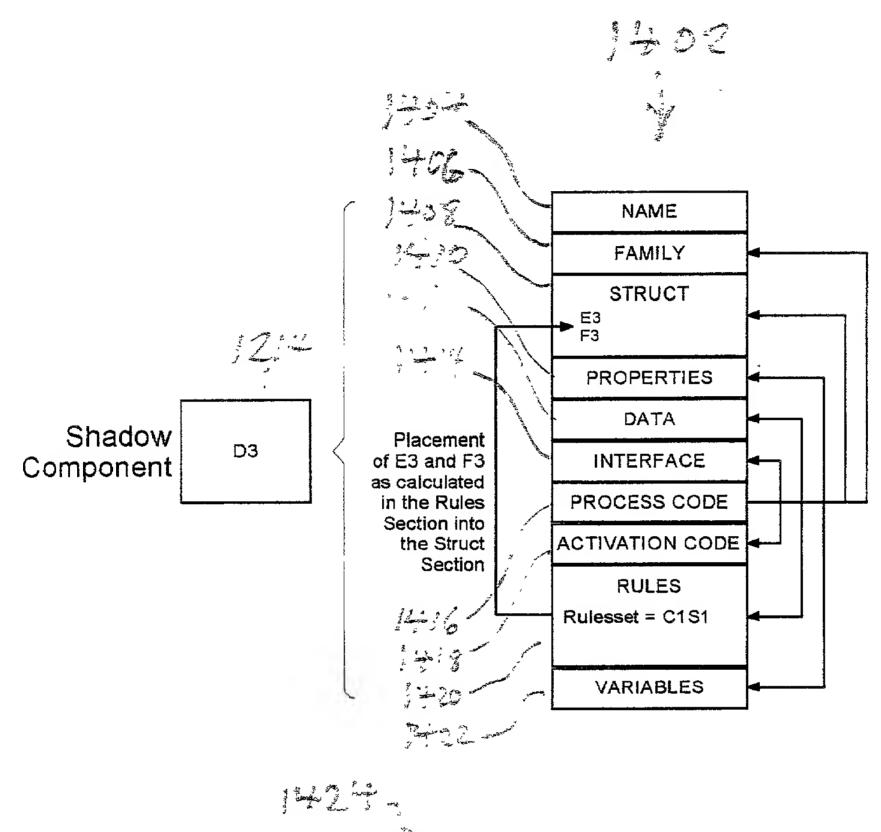


SHADOW COMPONENT RESOLUTION Figure 12



PROCESSING OF SHADOW COMPONENT DURING COMPONENT LOADING PHASE

Figure 13

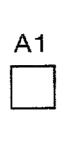


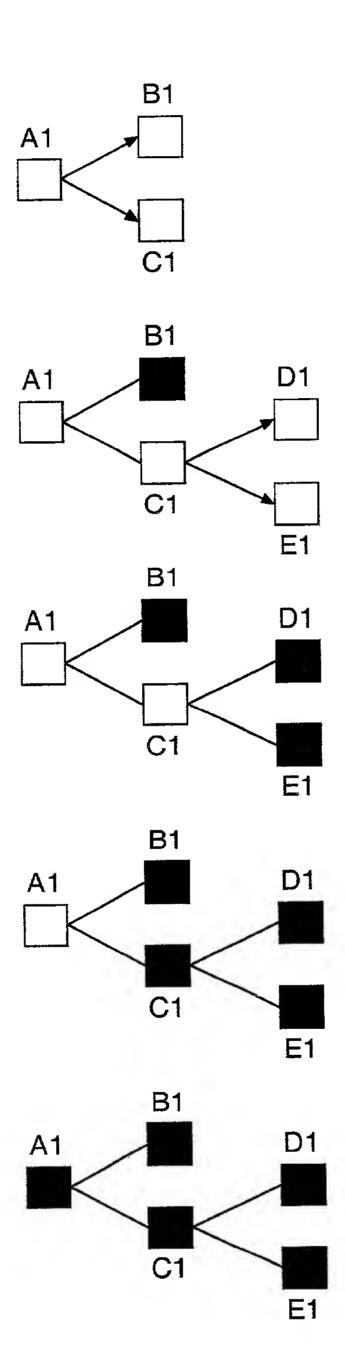
Rulesset C1S1:

If ConditionX is true, then enter E3 and F3 into Struct section If ConditionY is true, then enter G3 and H3 into Struct section

SHADOW COMPONENT SELF-MODIFICATION

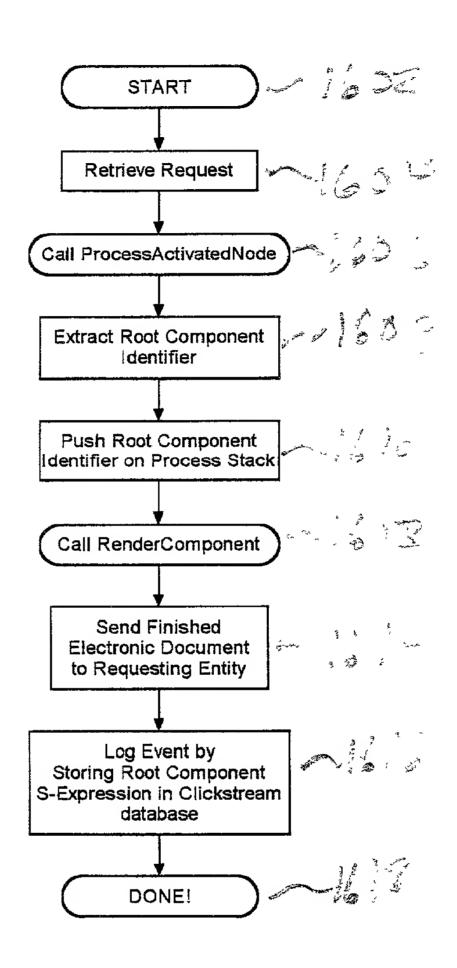
Figure 14





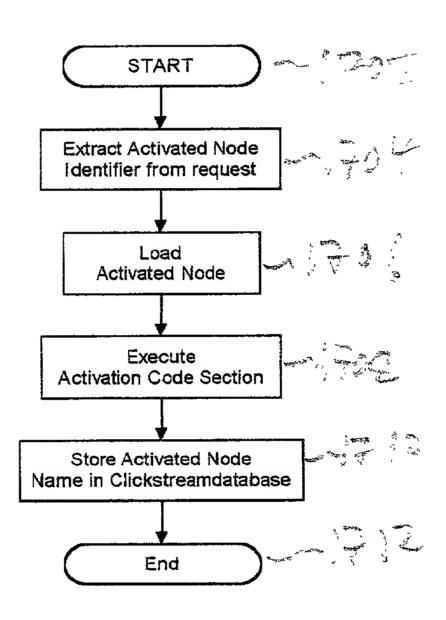
MULTITHREADED COMPONENT LOADING AND PROCESSING

Figure 15



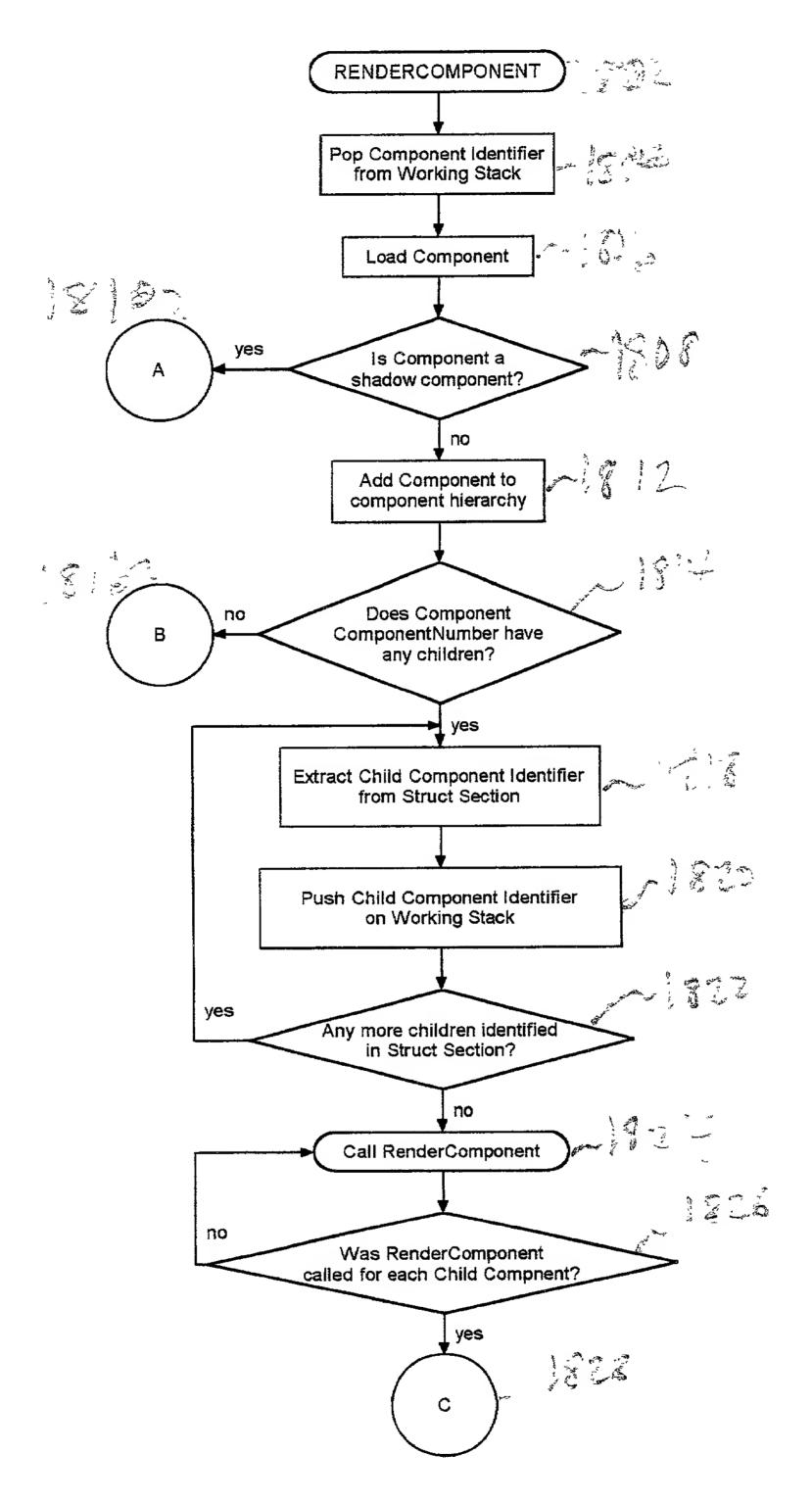
COMPONENT LOADING & PROCESSING USING RECURSION MAIN ROUTINE

Figure 16



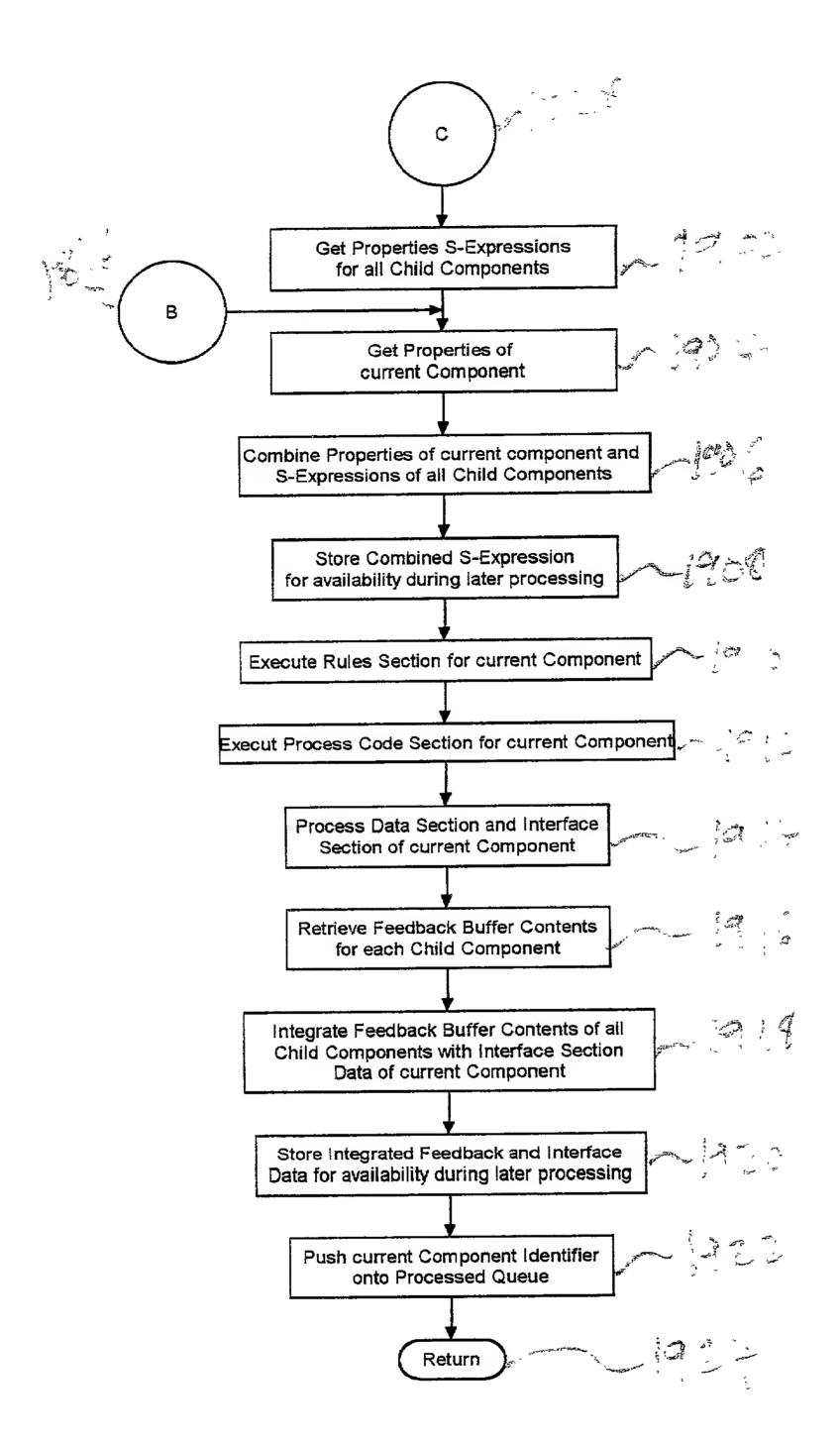
COMPONENT LOADING & PROCESSING USING RECURSION ROUTINE PROCESSACTIVATEDNODE

Figure 17



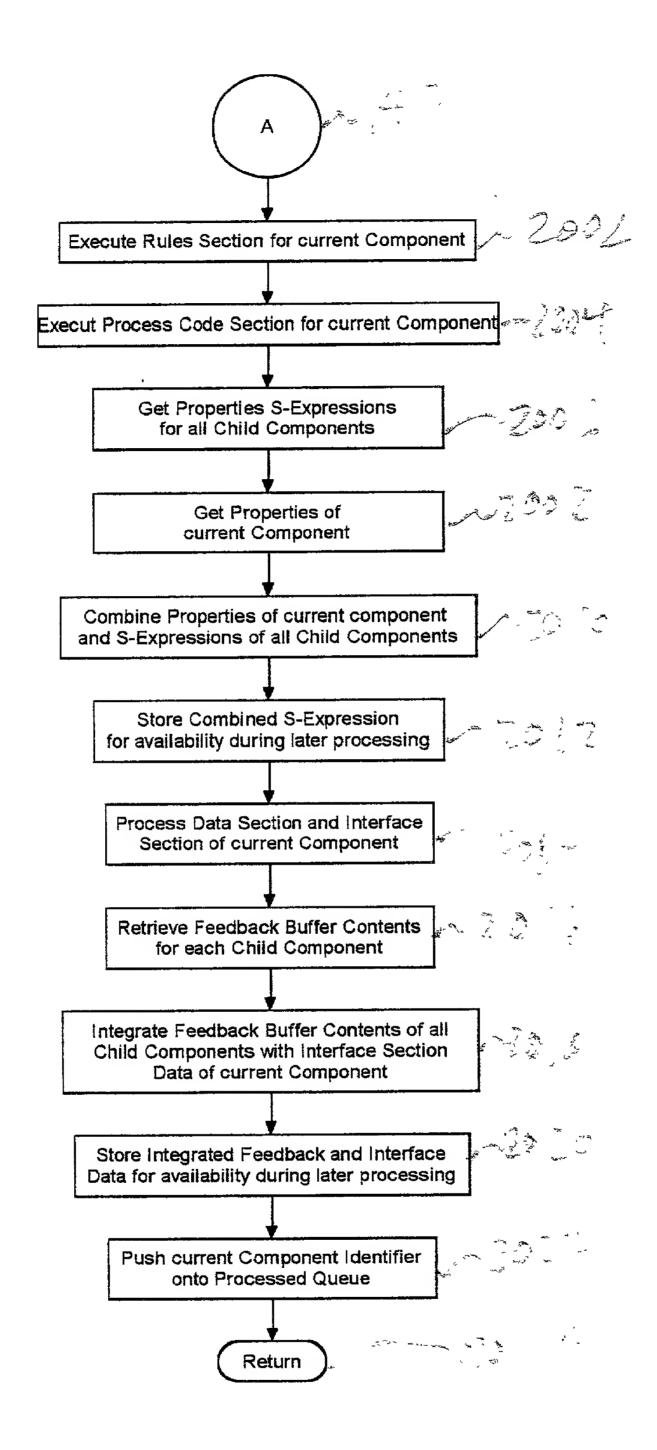
COMPONENT LOADING & PROCESSING USING RECURSION RENDERCOMPONENT ROUTINE (PART 1/3)

Figure 18



COMPONENT LOADING & PROCESSING USING RECURSION RENDERCOMPONENT ROUTINE (PART 2/3)

Figure 19



COMPONENT LOADING & PROCESSING USING RECURSION RENDERCOMPONENT ROUTINE (PART 3/3)

Figure 20

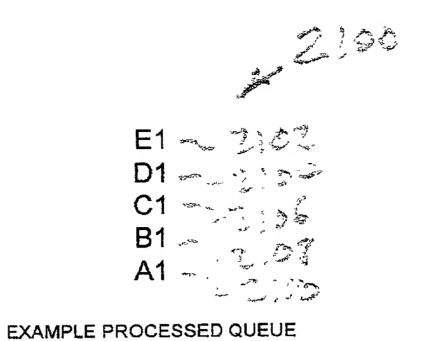
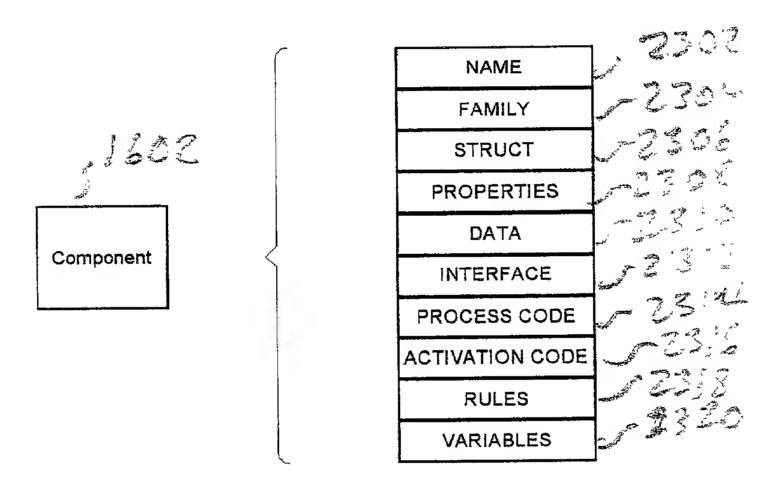


Figure 21

```
<HTML>
<BODY>
<CENTER><H1>ALOHA'S WEBPAGE</H1></CENTER>
<TABLE>
<TBODY>
<TR>
<IMG SRC="aha.html"></IMG>
</TD>
<TD>
Aloha was born ... ~ 2222
</TD>
</TR>
</TBODY>
</TABLE>
</BODY>
</HTML>
```

EXAMPLE FEEDBACK BUFFER

Figure 22



EXEMPLARY COMPONENT WITH SECTIONS

Figure 23

```
<identification>
<name value="D1"/>
<type value="normal"/>
<description value="my picture"/>
</identification>
```

EXAMPLE NAME ELEMENT

Figure 24

EXAMPLE FAMILY ELEMENT

EXAMPLE STRUCT ELEMENT

Figure 26

EXAMPLE PROPERTIES ELEMENT

Figure 27

EXAMPLE DATA ELEMENT

Figure 28

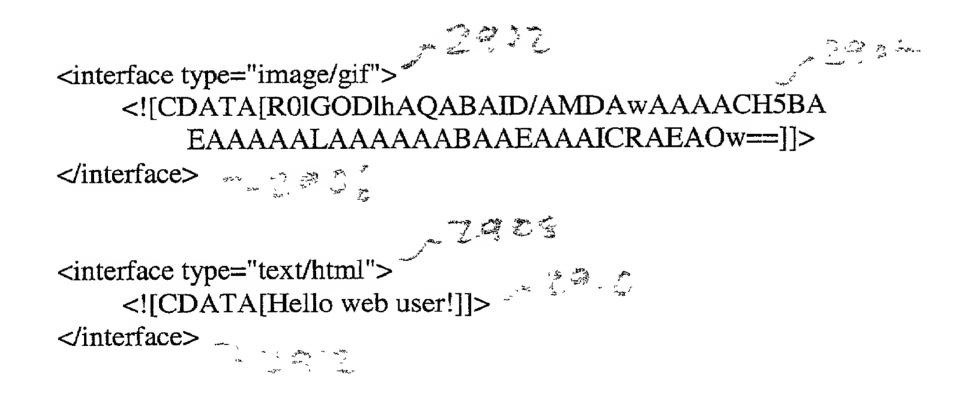


Figure 29

EXAMPLE INTERFACE ELEMENTS

EXAMPLE PROCESS CODE ELEMENT

Figure 30

EXAMPLE ACTIVATION CODE ELEMENT

Figure 31

```
<rulesset>
</rulesset>

crulesset>

crulesset

c/rulesset>
```

EXAMPLE RULES ELEMENT

Figure 32

EXAMPLE VARIABLES ELEMENT

Figure 33

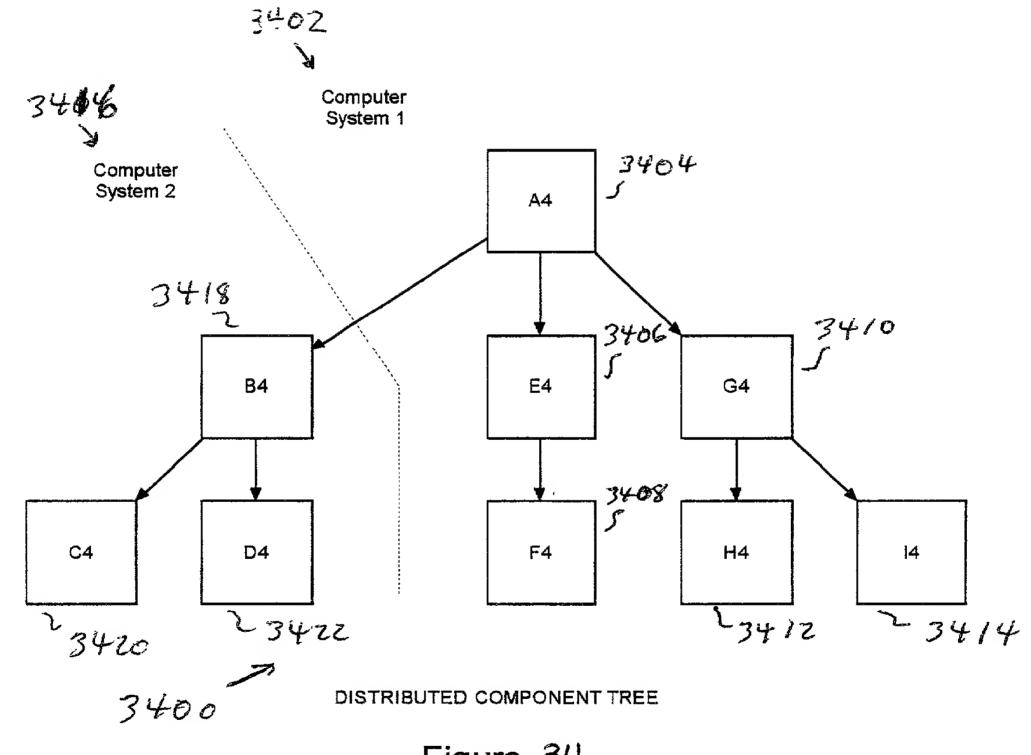
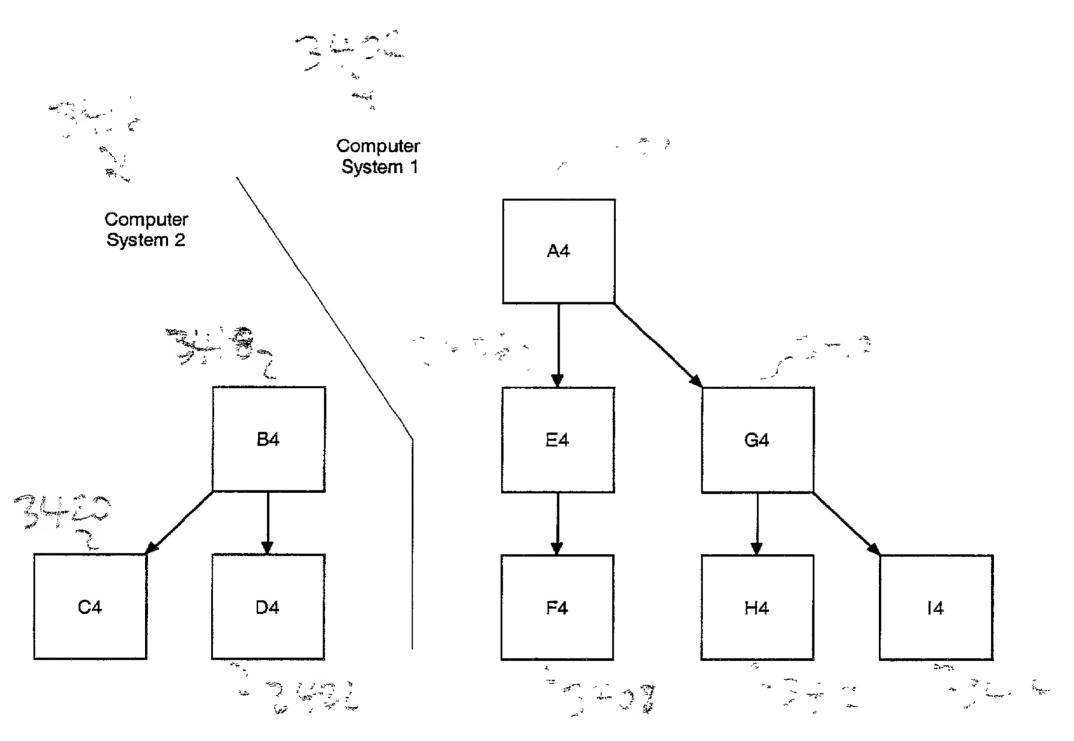
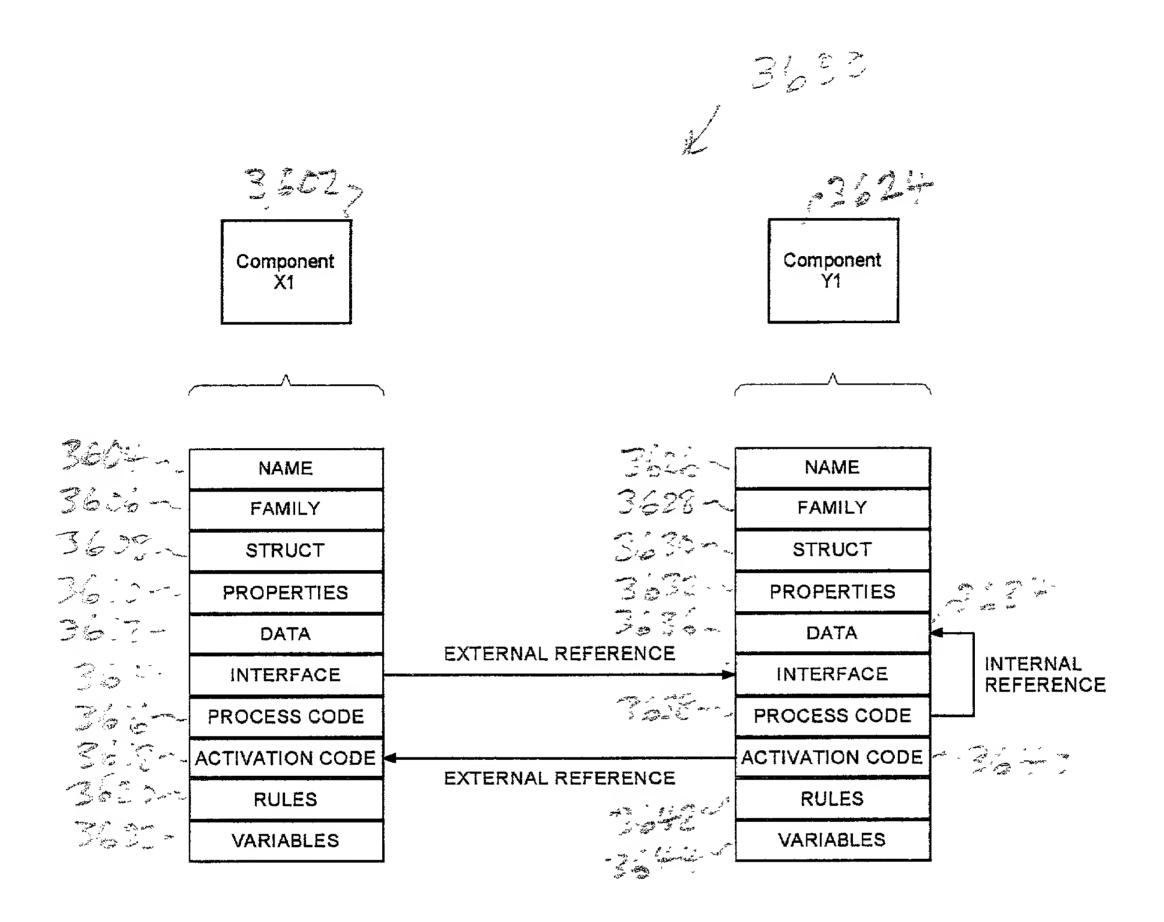


Figure 34



LOADING AND PROCESSING OF DISTRIBUTED COMPONENT TREE

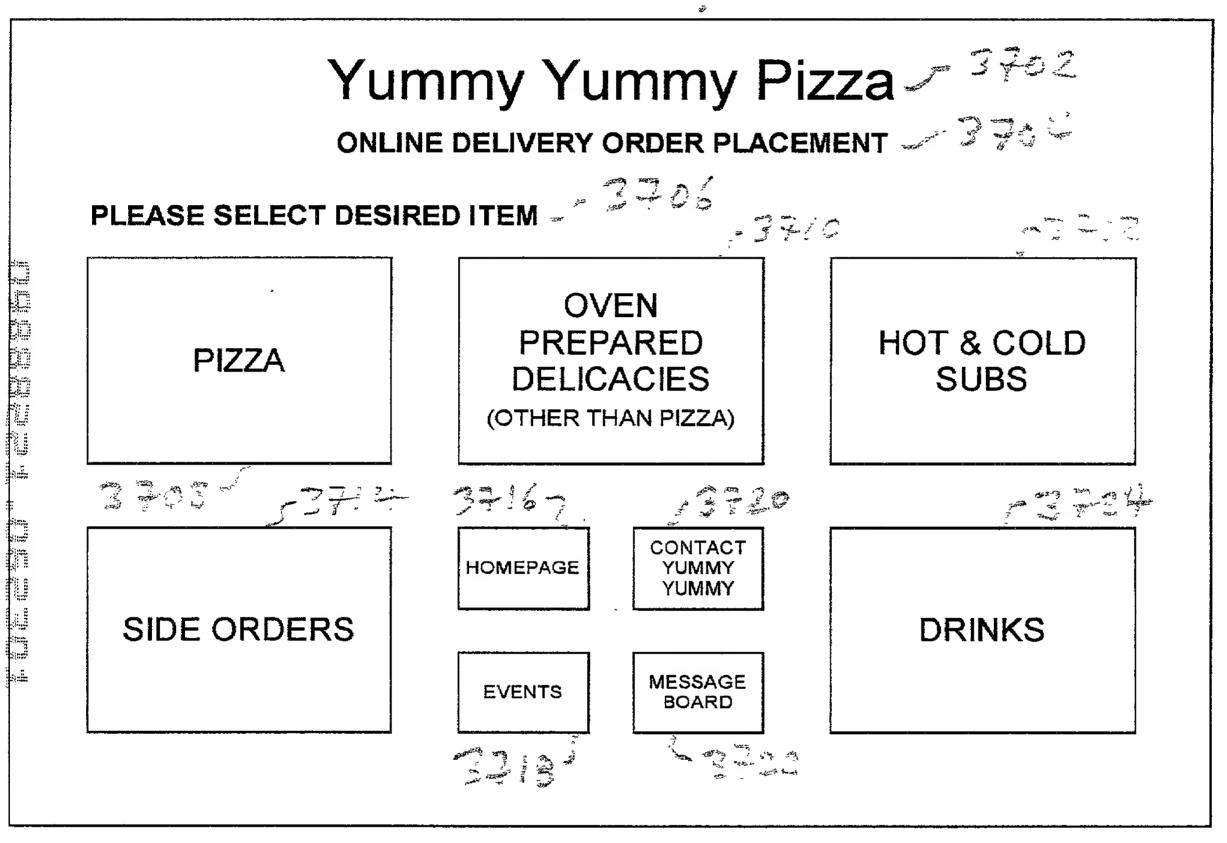
Figure 35



INTERNAL AND EXTERNAL REFERENCING

Figure 36

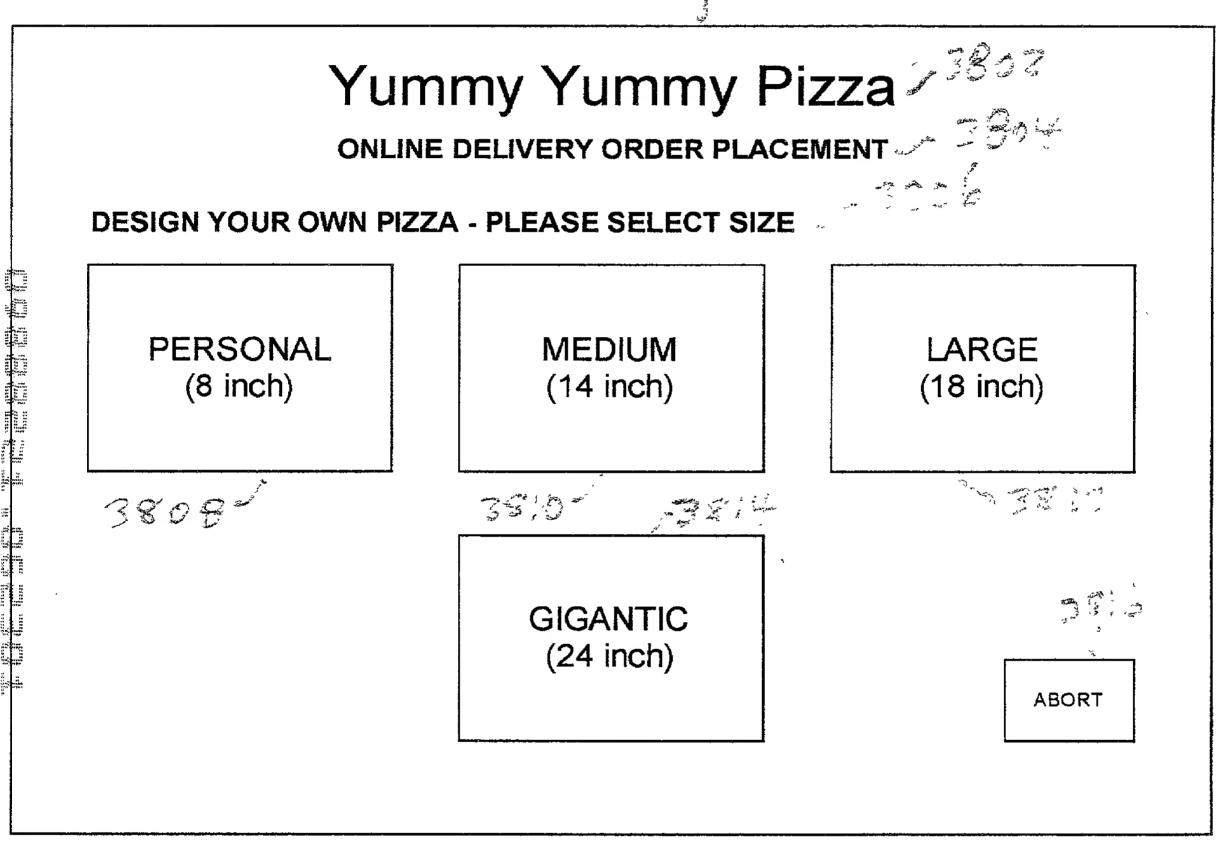
,370



EXAMPLE INITIAL ONLINE ORDERING PAGE

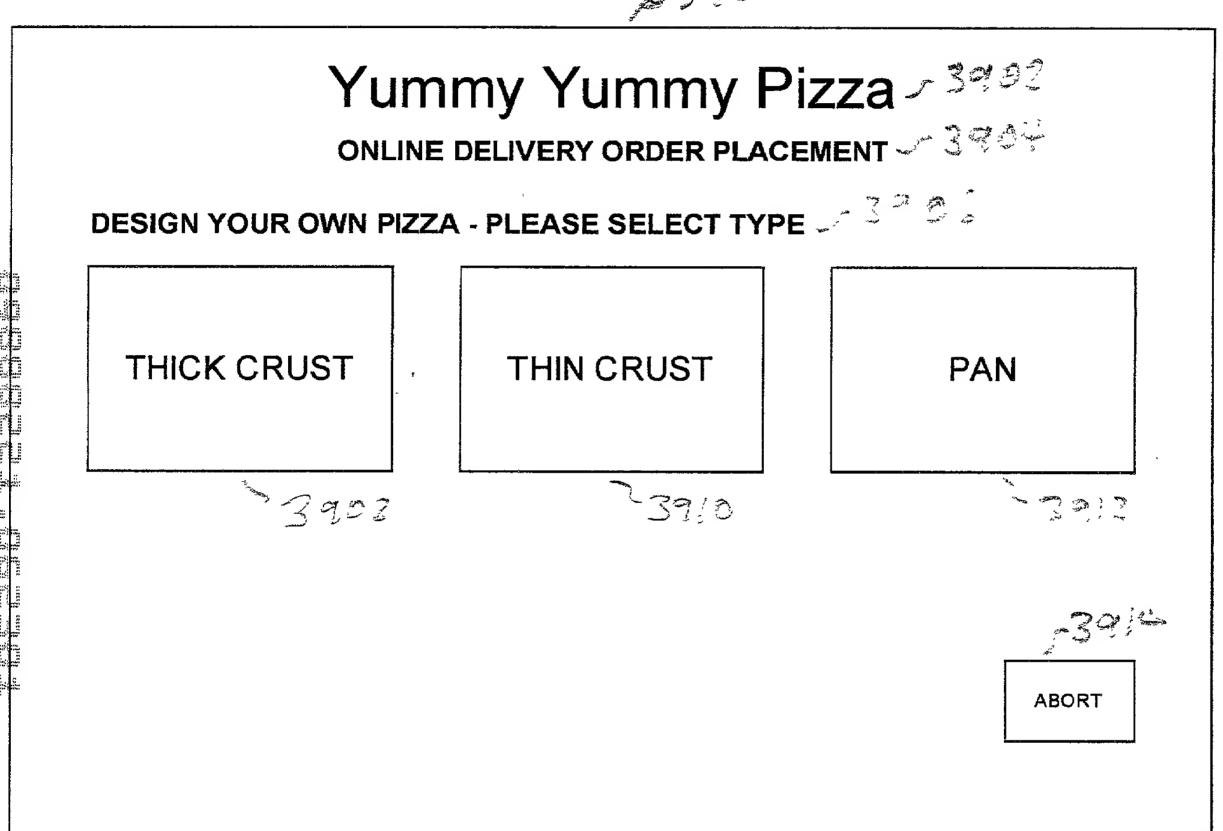
Figure 37



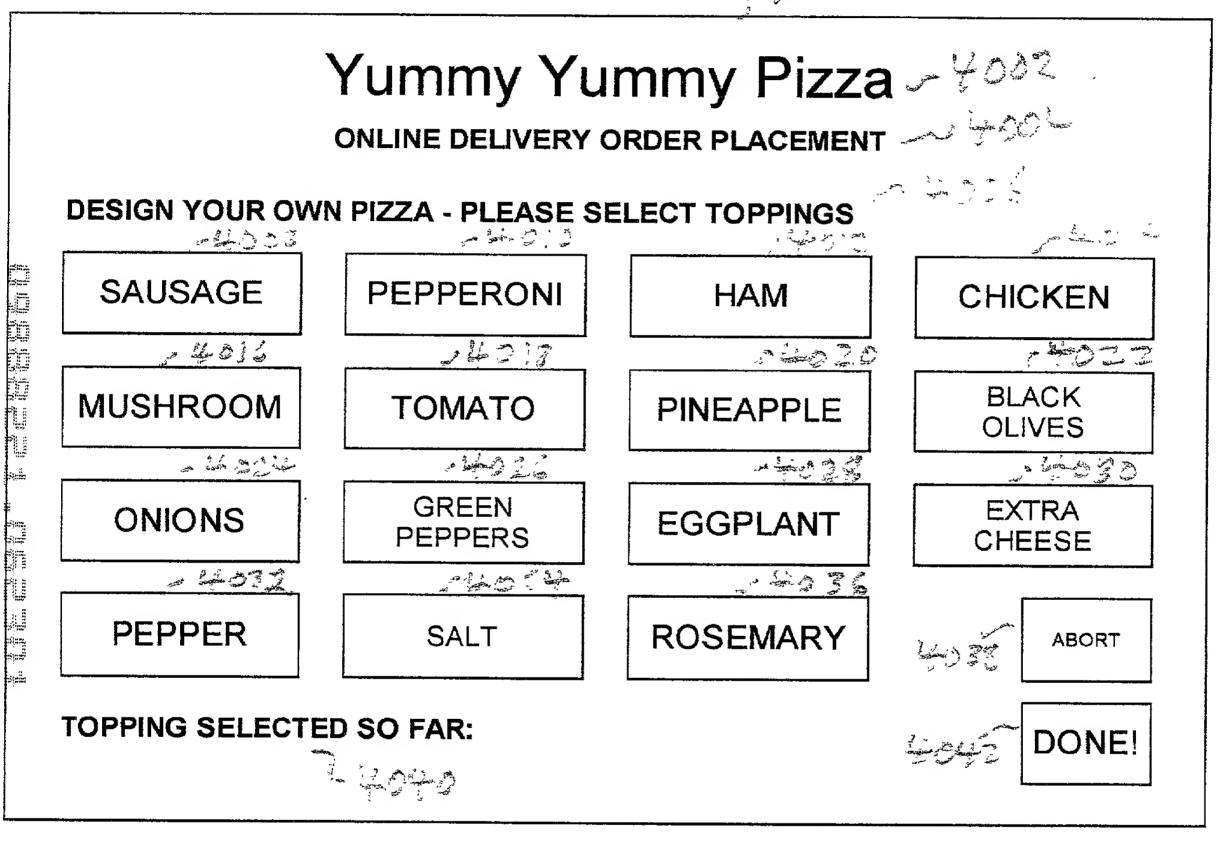


EXAMPLE SECOND ONLINE ORDERING PAGE

27900

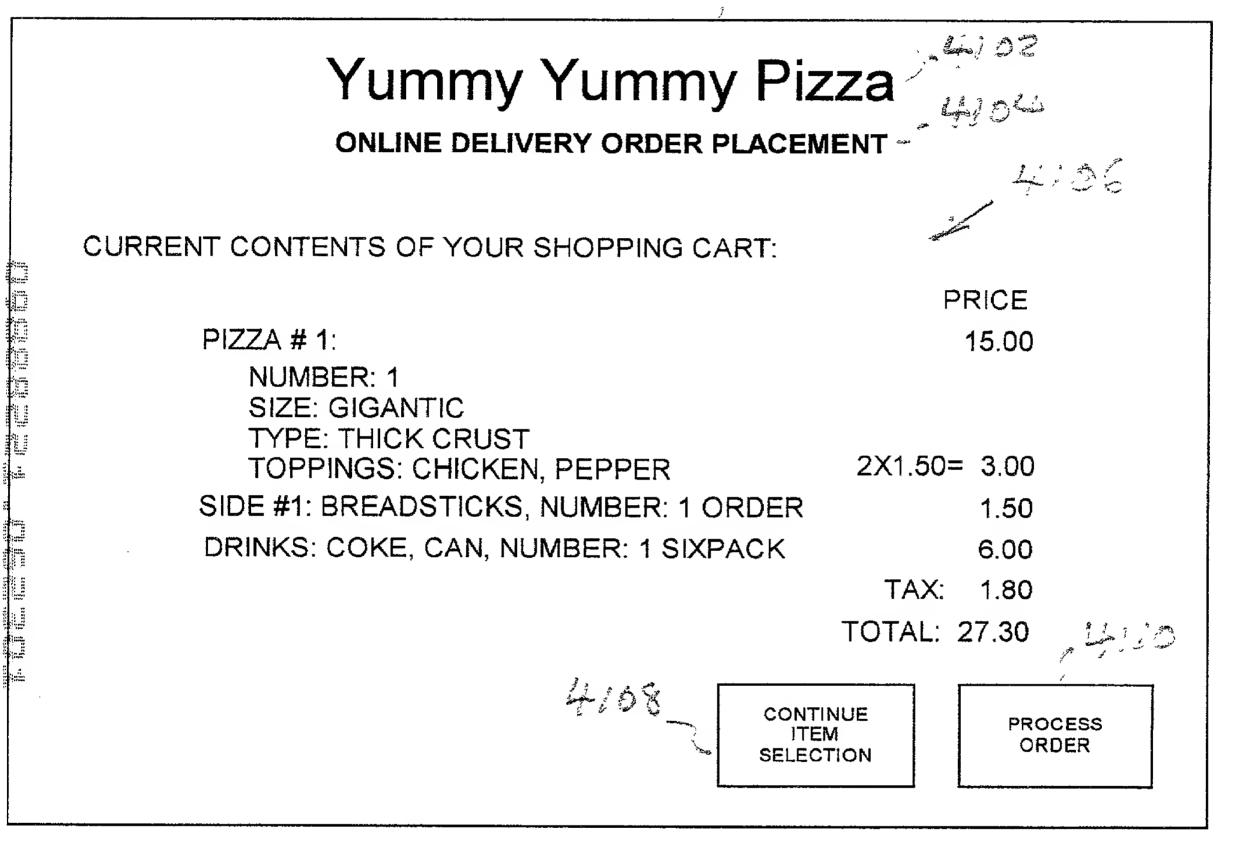


EXAMPLE THIRD ONLINE ORDERING PAGE



EXAMPLE FOURTH ONLINE ORDERING PAGE

一半のり



EXAMPLE CONTENTS OF ONLINE SHOPPING CART

CLICKSTREAM DATABASE WITHOUT USER ID OR PROPERTIES

```
(user id=bezuwork100 (YA1 (YB1) (YC1) (YD1 (YE1, pizza=1.0, hotfood=1.0)
            (YF1, hotfood=1.0, bakedness=1.0) (YG1, subs=1.0, breadness=0.3,
            sandwich=1.0)) (YH1 (YI1, sideorder=1.0) (YJ1 (YK1 (YL1,
            homepage=1.0) (YM1, email=1.0)) (YN1 (YO1, events=1.0) (YP1,
            messagebd=1.0))) (YQ1, drink=1.0))))
(user id=bezuwork100 (YE1))
 (user id=bezuwork100 (YA2 (YB2) (YC2) (YD2 (YE2, small=1.0) (YF2, medium=1.0) (YG2, large=1.0)) (YH2 (YI2) (YI2)
            medium=1.0) (YG2, large=1.0)) (YH2 (YI2) (YJ2, extra large=1.0) (YK2,
 abort= ι.υ,,,,
(user id=bezuwork100 (YJ2))
      (user id=bezuwork100 (YA3 (YB3) (YC3) (YD3 (YE3, chewy=0.9,
            thickness=0.6) (YF3, crispy=0.8, thinness=0.7) (YG3, fillingness=0.9))
            (YH3, abort=1.0)))
  (user id=bezuwork100 (YE3))
      __ (user id=bezuwork100 (YA4 (YB4) (YC4) (YD4 (YE4, sausage=1.0) (YF4,
            pepperoni=1.0) (YG4, ham=1.0) (YH4, chicken=1.0)) (YI4 (YJ4,
 mushroom=1.0) (YK4, tomato=1.0) (YL4, pineapple=1.0) (YM4, black
            olives=1.0)) (YN4 (YO4, onion=1.0) (YP4, green peppers=1.0) (YQ4,
            eggplant=1.0) (YR4, cheese=1.0)) (YS4 (YT4, pepper=1.0) (YU4,
            salt=1.0) (YV4, rosemary=1.0) (YW4, abort=1.0)) (YX4 (YY4) (YZ4,
            continue=1.0))))
         (user id=bezuwork100 (YH4))
       (user id=bezuwork100 (YA4 (YB4) (YC4) (YD4 (YE4, sausage=1.0) (YF4,
            pepperoni=1.0) (YG4, ham=1.0) (YH4, chicken=1.0)) (YI4 (YJ4,
            mushroom=1.0) (YK4, tomato=1.0) (YL4, pineapple=1.0) (YM4, black
            olives=1.0)) (YN4 (YO4, onion=1.0) (YP4, green peppers=1.0) (YQ4,
            eggplant=1.0) (YR4, cheese=1.0)) (YS4 (YT4, pepper=1.0) (YU4,
            salt=1.0) (YV4, rosemary=1.0) (YW4, abort=1.0)) (YX4 (YY4 chicken=1.0)
 (YZ4, continue=1.0))))
      (user id=bezuwork100 (YT4))
       (user id=bezuwork100 (YA4 (YB4) (YC4) (YD4 (YE4, sausage=1.0) (YF4,
            pepperoni=1.0) (YG4, ham=1.0) (YH4, chicken=1.0)) (YI4 (YJ4,
            mushroom=1.0) (YK4, tomato=1.0) (YL4, pineapple=1.0) (YM4, black
            olives=1.0)) (YN4 (YO4, onion=1.0) (YP4, green peppers=1.0) (YQ4,
            eggplant=1.0) (YR4, cheese=1.0)) (YS4 (YT4, pepper=1.0) (YU4,
            salt=1.0) (YV4, rosemary=1.0) (YW4, abort=1.0)) (YX4 (YY4 chicken=1.0,
            pepper=1.0) (YZ4, continue=1.0))))
```

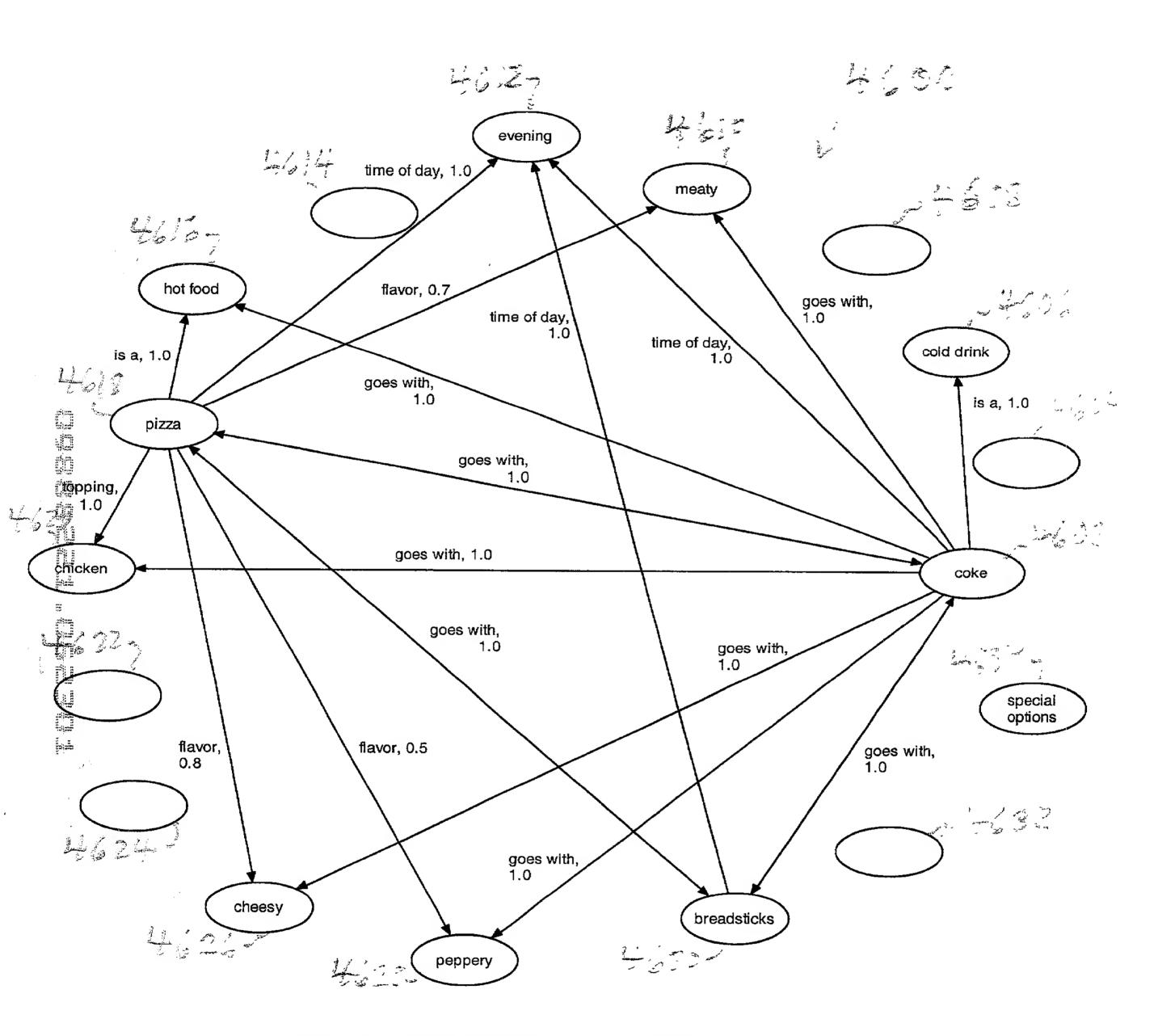
CLICKSTREAM DATABASE WITH PROPERTIES

(user id=bezuwork100 (YZ4))

Figure 43

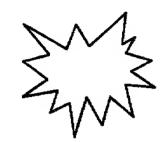
Yummy Yummy Pizza ONLINE DELIVERY ORDER PLACEMENT-SELECT ITEM, ENTER NUMBER OF UNITS DESIRED, THEN CLICK "ADD TO ORDER" WHEN DONE, CLICK "PROCESS ORDER" - YOU WILL HAVE AN OPPORTUNITY TO REVIEW YOUR ORDER FOR ACCURACY BEFORE SUBMISSION. HOT OVEN PRODUCTS & SUBS O CHEESE STEAK SUB O STROMBOLI O ITALIAN SAUSAGE SUB O CALZONE O MEATBALL SUB O ITALIAN COLD CUT SUB O PIZZA SIZE: O PERSONAL O LARGE O MEDIUM O GIGANTIC CRUST: O THIN CRUST OTHICK CRUST TOPPING: O SAUSAGE O PEPPERONI O HAM O EXTRA CHEESE O MUSHROOM O BLACK OLIVES O TOMATOE O PINEAPPLE O ONIONS O GREEN PEPPERS O EGGPLANT O CHICKEN HERBS & SPICES: O PEPPER O SALT O ROSEMARY O OREGANO SIDE ORDERS O BUFFALO WINGS O BREADSTICKS O POTATOE CHIPS **DRINKS** O LITER COKE O SPRITE CAN O ICED TEA, BOTTLE O COKE, CAN O DIET COKE, CAN O WATER, BOTTLED NUMBER OF SELECTED ITEMS DESIRED: ADD TO ORDER PROCESS ORDER

EXEMPLARY WEBPAGE WITH USER FEEDBACK



SEMANTIC NETWORK REPRESENTATION OF PERSONAL PROFILE

Figure 46

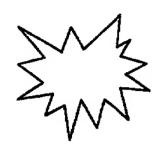


EDITHA'S FILIPINO DINER

1116 South 19th Street
Arlington, VA 22202

For delivery, select menu items below, or go to our delivery page A 4.200 RESERVATIONS **SPECIALS FULL MENU DELIVERY CATERING** SITE MAP 25 21 34 PAELLA 18 15 GINISANG 17 ARROZCALDONG AFRITADA (chicken & sausage **PAKIGUNG MUNGO ESCABECHE** (rice & chicken) (sausage stew) with rice) **ISDA** (vegetable) (fish) (fish) 15 SINIGANG 11 ADOBO 12 TORTA 10 PANSIT 28 TINOLA 62 (chicken) NA BABOY (noodles, meat, (meat) MANOK **PANDESAL** (meat) & vegetables) (chicken) (bread)

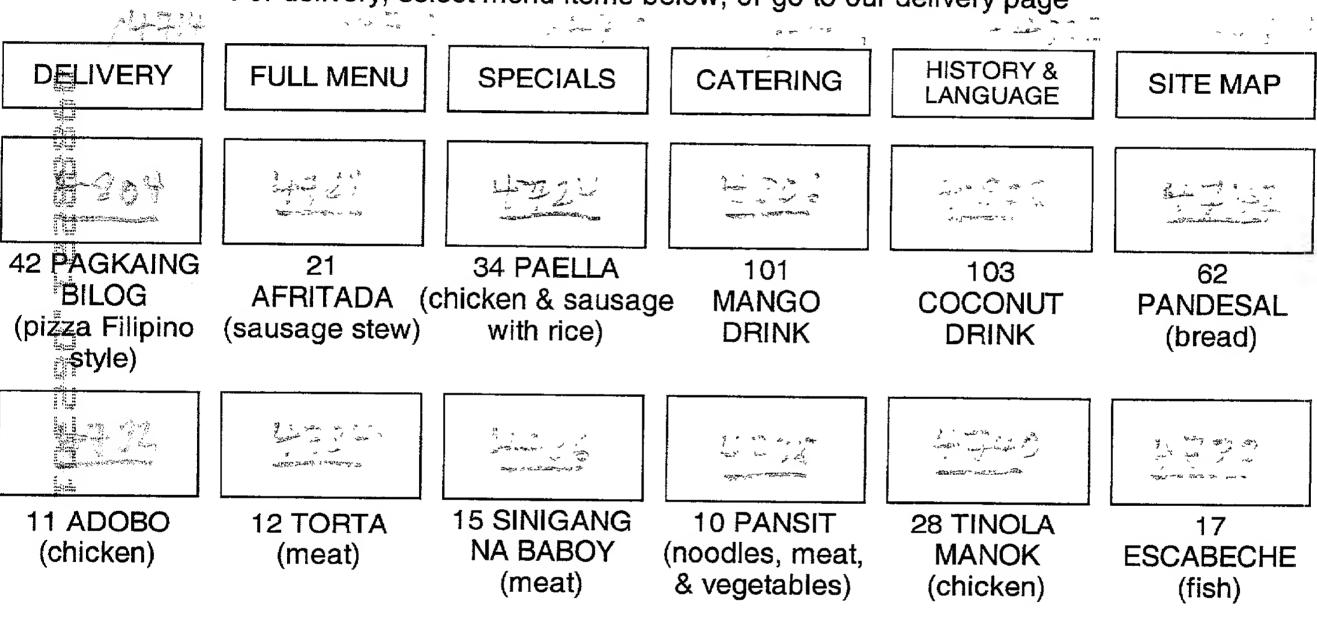
UNCUSTOMIZED WEBPAGE



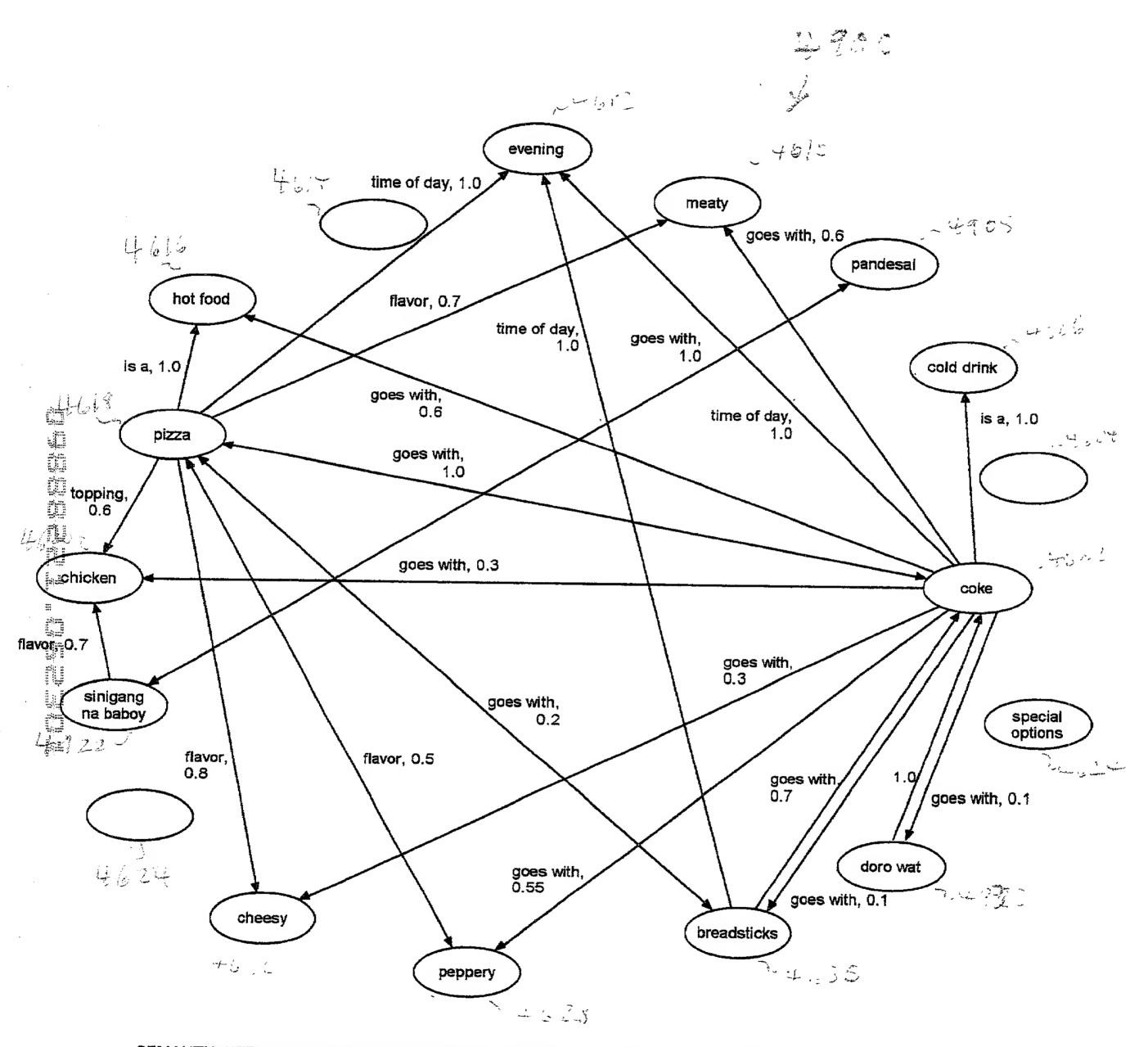
EDITHA'S FILIPINO DINER - 4702

1116 South 19th Street Arlington, VA 22202

For delivery, select menu items below, or go to our delivery page

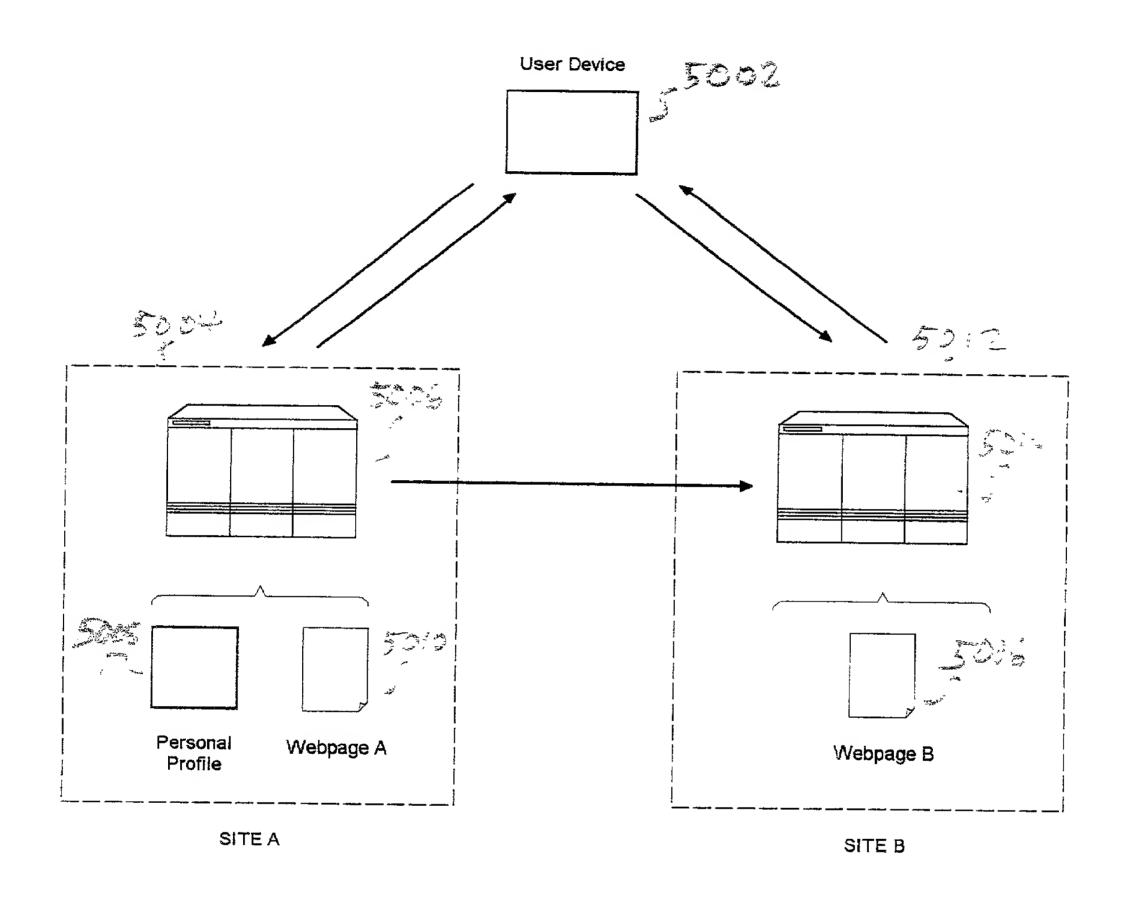


WEBPAGE CUSTOMIZED BY PERSONALIZATION



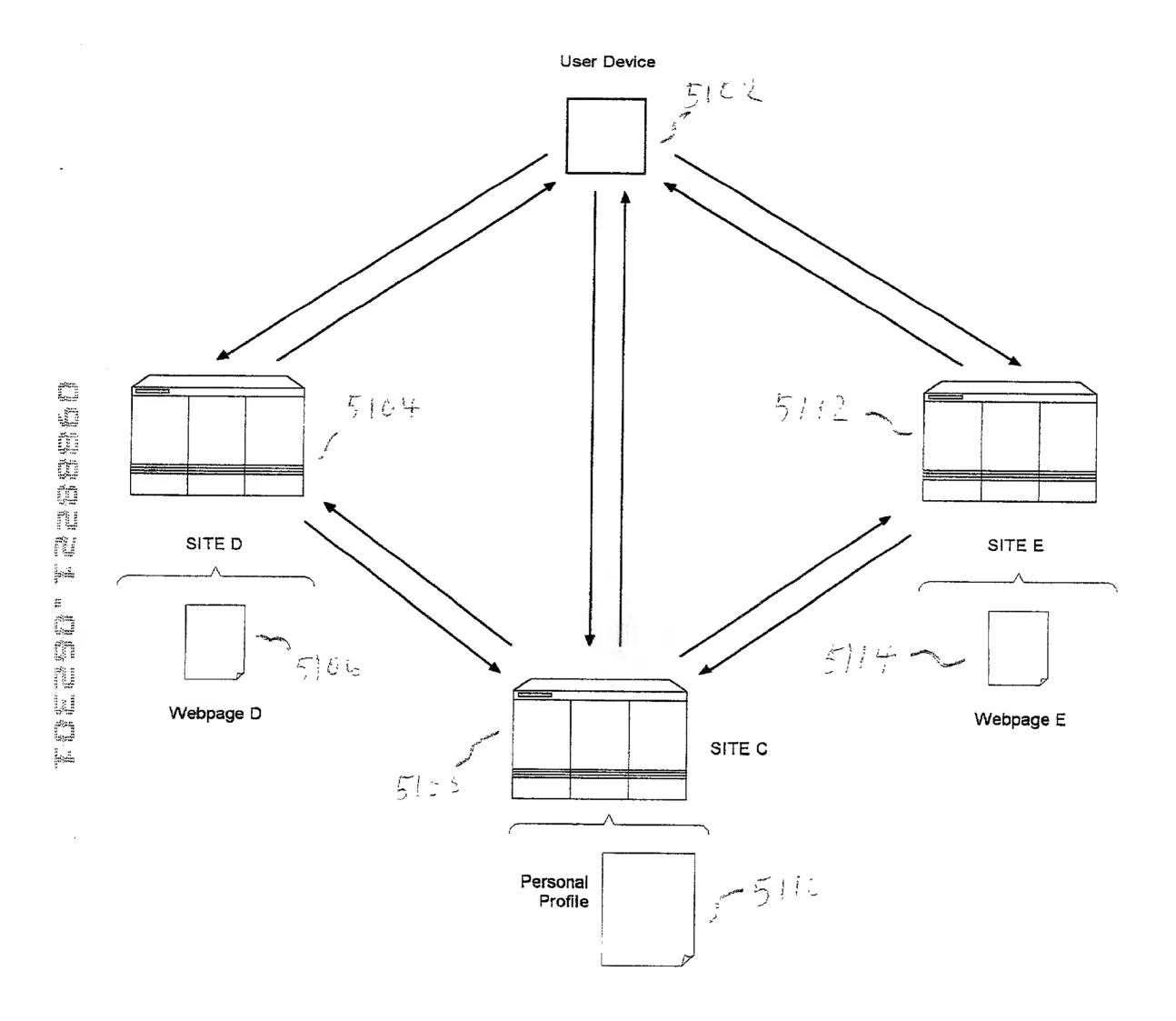
SEMANTIC NETWORK REPRESENTATION OF PERSONAL PROVILE AFTER SEVERAL SITE VISITATIONS

Figure 49



Decentralized Distribution of Personal Profiles

Figure 50



Centralized Distribution of Personal Profiles

Figure 51

	ws Onli	noi								
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	7527	-1150		35210						
	SITEMAP	PATENTS	COPYRIGHT	TRADEMARK	TRADE SECRET	MESSAGE BOARDS				
	Youngster's Invention Worth Millions Young inventor, Aloha invented new technique of surveillance while playing									
Hum Grand	Bird Diaper - US Patent 5,934,226 seen as boon to bird lovers everywhere									
i i i i i i i i i i i i i i i i i i i										
Anna Sina										
5218	People Profiles									
	Inve inve inte	na - Child entor who's ention rests the Military		Abraham Lincoln - only US President to hold a patent						
L					The second secon					

UNPERSONALIZED WEBPAGE

Figure 52

Intellectual Property News Online

多少。 5210 **MESSAGE** TRADE **PATENTS** SITEMAP TRADEMARK COPYRIGHT **BOARDS** SECRET Youngster's Invention Worth Millions Young inventor, Aloha invented new technique of surveillance while playing Bird Diaper - US Patent 5,934,226 seen as boon to bird lovers everywhere A bird diaper for an uncaged pet bird to wear, featuring an enclosed pouch Open Source vs. Microsoft - Who Should Win? Linus Torvalds, originator of the Linux craze, was recently asked what he had

Anit-Cybesquatting law used in test case

The anti-cybersquatting act, signed into law on November 29, 1999, forms the

1 1	
Aloha - Child Inventor who's Invention Interests the US Military	Abraham Lincoln - only US President to hold a patent

WEBPAGE WITH REORDERED COMPONENTS

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Intellectual Property News Online										
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	SITEMAP	PATENTS	COPYRIGHT	TRADEMARK	TRADE SECRET	MESSAGE BOARDS				
Y		r's Invention W								
	Young inventor, Aloha invented new technique of surveillance while playing									
- B		er - US Patent								
		liaper for an un				_				
Fe		ision Causes								
						-				
		Court of Appe				7				
S	tate Stre	et Bank Decis	ion Seen to d	ppen doors f	or Business N	lethod Paten				
		Street, the US								
		23220				μ				
Peop	ole Profiles	? I								
		Aloha - Child Inventor who's Invention Interests the US Military	LOF	Abraham incoln - only US President to old a patent						

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PATENTS

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TRADEMARK

TRADE SECRET MESSAGE BOARDS

Youngster's Invention Worth Millions

Young inventor, Aloha invented new technique of surveillance while playing Bird Diaper - US Patent 5,934,226 seen as boon to bird lovers everywhere A bird diaper for an uncaged pet bird to wear, featuring an enclosed pouch Open Source vs. Microsoft - Who Should Win?

Linus Torvalds, originator of the Linux craze, was recently asked what he had

Anit-Cybesquatting law used in test case

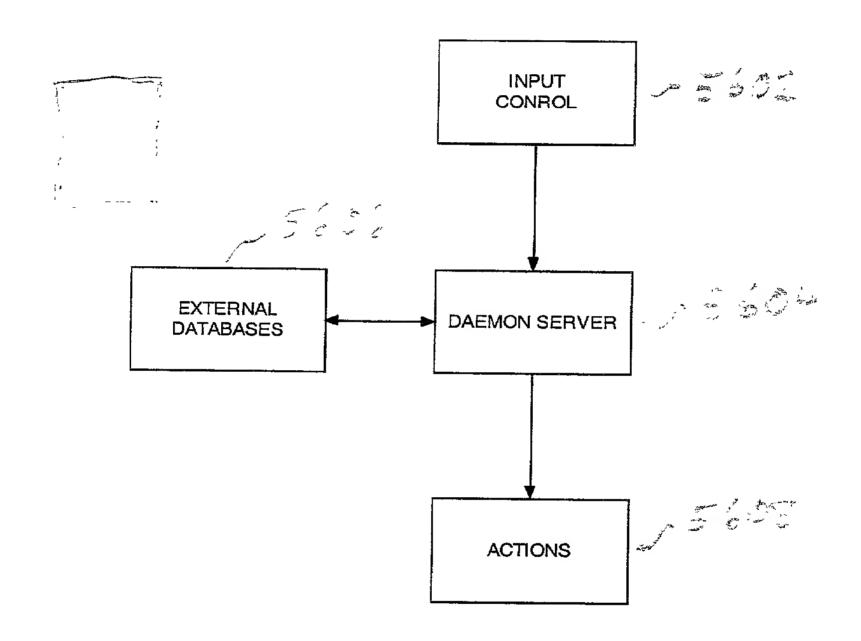
The anti-cybersquatting act, signed into law on November 29, 1999, forms the Festo Decision Causes Patent Practitioners To Reexamine Their Technique

The US Court of Appeals for the Federal Circut decision in Festo Corp. v. Sho

State Street Bank Decision Seen to open doors for Business Method Patent
In State Street, the US Court of Appeals rejected the business methods excep
In re Beauregard decision paves the way for Program Product claims

The US Patent & Trademark Office changed it's position, deciding not to pursu

WEBPAGE AFTER COMPONENT REMOVAL

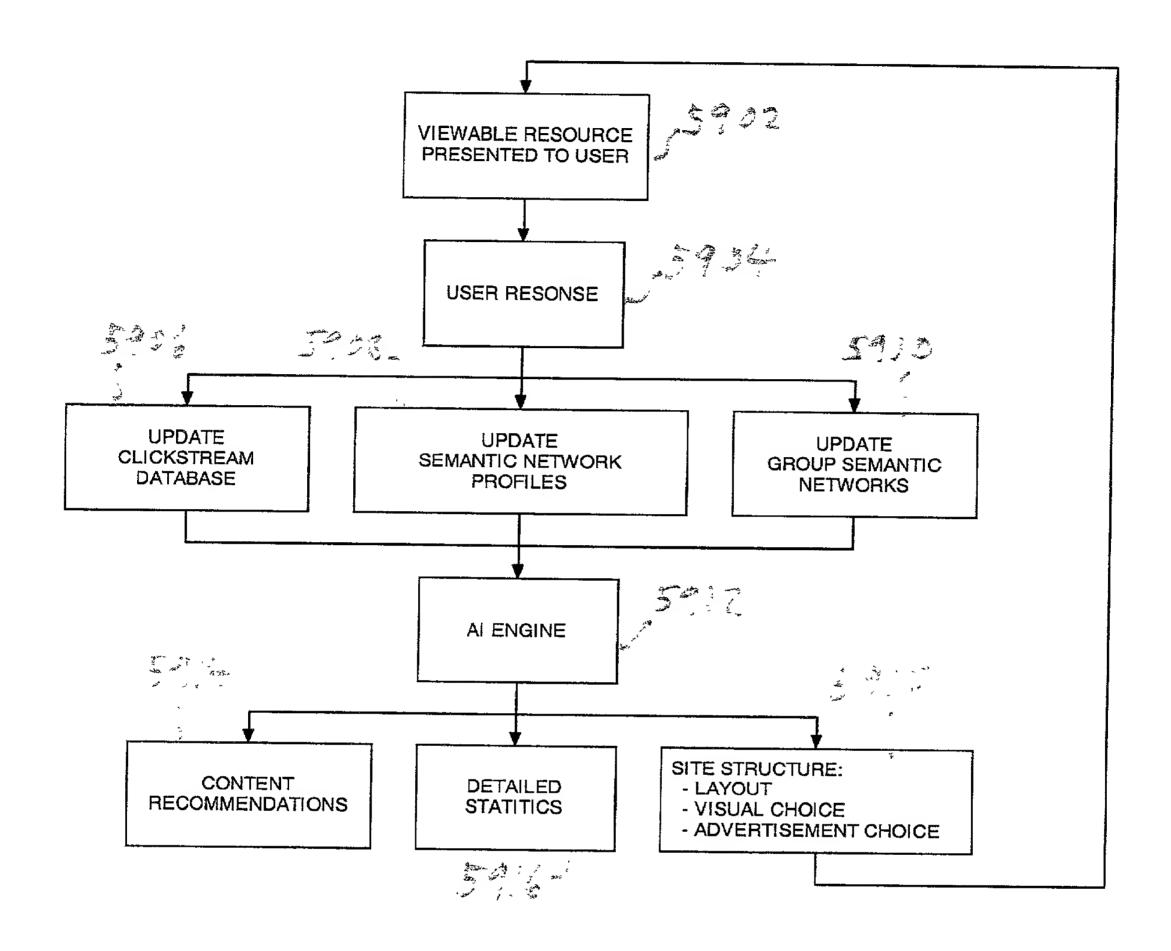


DAEMON SERVER

Figure 56

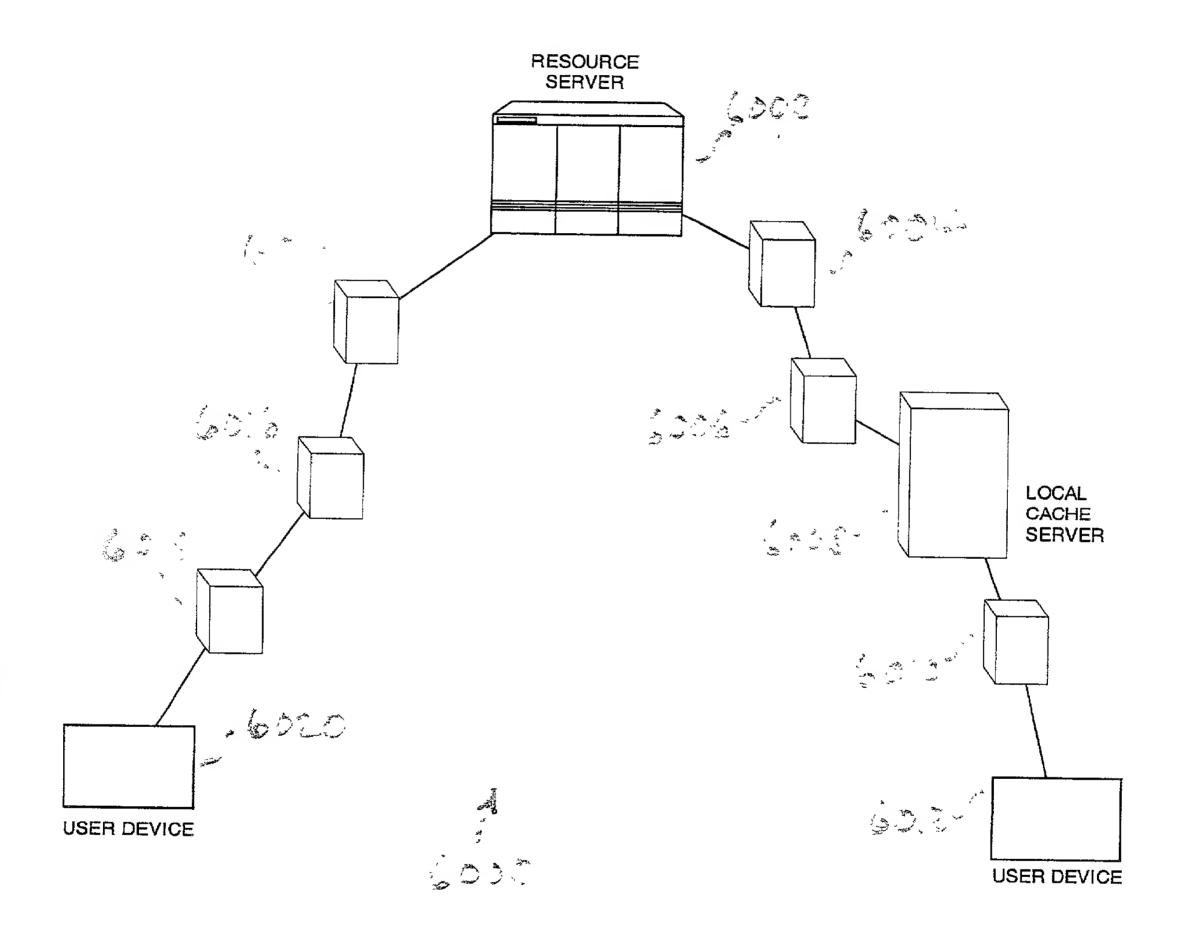
EXAMPLE INITIAL ONLINE ORDERING PAGE WITH EXAMPLE OF EXTRA-SESSION PERSONALIZATION

Figure 57



OPERATION OF THE ARTIFICIAL INTELLIGENCE ENGINE

Figure 58



DYNAMIC CACHING

Figure 59

```
<?xml version="1.0"?>
   <componentDefinition>
         <identification>
               <name value="componentSprint"/>
               <type value="normal"/>
         </identification>
         <relatives>
               <relative value="componentSprint"/>
         </relatives>
         <struct>
               <reference value="this"/>
         </struct>
        properties>
        </properties>
        <data type="none">
               <![CDATA[]]>
        </data>
        <interface type="text/html">
               <![CDATA[]]>
        </interface>
        <code language="WebL">
              <! [CDATA [
              import Java;
              // @CCID
              // Define Java API interface
              // Specify the particular Method that contains the routines for
the API calls
              var jClass = Java_New("Future4");
              var API = jClass.getOCPDS(ccID);
              // Begin
              var carrierName
                                = "Sprint PCS";
              var baseURL
"http://www.messaging.sprintpcs.com/sms/check_message_syntax.html?callbacknum=
₱ 777777777777777;
              var messageHeader = "&message=";
              var defaultMessage
                                      = "This+is+a+sample+message";
                                = API.gOQV("message");
              var message
              var mobileHeader = "&mobilenum=";
              var defaultMobileNum
                                      = "7038631132";
              var mobileNum
                                      = API.gOQV("mobileNumber");
              if message == "" or message == nil then
                    message = defaultMessage;
              end;
              if mobileNum == "" or mobileNum == nil then
                    mobileNum = defaultMobileNum;
              end;
              var P = GetURL(baseURL + messageHeader + message + mobileHeader +
 mobileNum);
              var myOutput = carrierName + " message sent.";
              API.sCI(cID, "text/html", myOutput);
              ]]>
       </code>
       <activationCode language="JavaScript">
              <! [CDATA [ ] ] >
       </activationCode>
 </componentDefinition>
```

exemplary component definition - ComponentSprint Figure 60

```
<?xml version="1.0"?>
  <componentDefinition>
        <identification>
              <name value="ComponentRU"/>
              <type value="preex"/>
        </identification>
        <ruleset>
              <name value="products"/>
        </ruleset>
        <relatives>
        </relatives>
        <struct>
              <reference value="this"/>
        </struct>
        properties>
        </properties>
        <data type="xml">
              <![CDATA[]]>
       </data>
        <interface type="text/html">
<![CDATA[]]>
       </interface>
       <code language="JavaScript">
              <![CDATA[]]>
       </code>
       <activationCode language="JavaScript">
             <![CDATA[]]>
       </activationCode>
 </componentDefinition>
```

exemplary component definition - ComponentRU Figure 61

```
<?xml version="1.0"?>
   <componentDefinition>
         <identification>
               <name value="componentPR"/>
               <type value="normal"/>
        </identification>
        <relatives>
               <relative value="componentPR"/>
        </relatives>
        <struct>
              <reference value="this"/>
        </struct>
        cproperties>
        </properties>
        <data type="none">
              <![CDATA[]]>
        </data>
        <bogus>sad;lkjf;saldkjf;dslkfj;alsdkjfa;lskdjfa;lksj</pogus>
        <interface type="text/html">
              <![CDATA[]]>
        </interface>
        <code language="WebL">
              <! [CDATA [
              import Java;
//try
// @Co
              //try
              // @CCID
                    // Define Java API interface
                    // Specify the particular Method that contains the routines
var jClass = Java_New("Future4");
                    var API = jClass.getOCPDS(ccID);
//var P = GetURL("http://www.prenewswire.com/home.shtml");
                     var P = GetURL("http://199.230.26.69/home.shtml");
var table = Elem(P, "table");
                    var QA = table[3];
                    var QB = Elem(QA, "tr");
                    var myOutput = "<IMG ALIGN=Middle</pre>
SRC=\"http://www.prnewswire.com/images/logoanim3.gif\" BORDER=\"0\" ALT=\"PR
Newswire\" VSPACE=7>" +
                    " < br >  " +
                    Markup(QB[0]) + Markup(QB[1]) + Markup(QB[2])
Markup(QB[3])+
                    "";
                    API.sCI(cID, "text/html", myOutput);
              //catch E
              //
                    on true do
                          "Data timeout / not available."
              //
              //end
              ]]>
        </code>
        <activationCode language="JavaScript">
              <![CDATA[]]>
        </activationCode>
 </componentDefinition>
```

exemplary component definition - ComponentPR

Figure 62

```
<?xml version="1.0"?>
  <componentDefinition>
       <identification>
            <name value="componentGIF"/>
            <type value="normal"/>
            <description value="This is a GIF File embedded in the</pre>
  component"/>
       </identification>
       <relatives>
            <relative value="component"/>
       </relatives>
       <struct>
            <reference value="this"/>
       </struct>
       properties>
            roperty name="none" value="0"/>
       </properties>
       <data type="none">
            <![CDATA[]]>
       </data>
       <interface</pre>
  type="image/gif"><![CDATA[R01GODdhIAAgAPcAAP///X+/+z4/e32+uvx9efx9erv9eHv9eX
 q79Pm6tXi5cbd4dDb3c/a3sTS1b/R17fK0a/J0LbGya/FyqvAw6y+wp62u5mtspiqrpKor5OnrYem
roOho56qn4OdnoOXm4yOhX6aoHSTmWqKkX+PiWaHjXSCfG6EV4FpJP0iFOwkDukjANYiHNAoANIiA
M8jAPwfE/8TE/8PGP8ME/kbDv8RAP8KD/8FC/8MAv8AAPQHAOKBAOEAANMfGscfAMgWANsAANOCAM
 YAAK42KK41J7EnCbIiAKcrAKcgAJM5AIszAZAqAJMjALAeD74ZAL0VALITAK4dDqYeAL0AAKQOAIE
  eEpsAAJQAAI4OAIMAAHh0Z218bGBwaml3Z2RjV29hQmFdTmRVQH9gN39oImdWOGdXN21MJHliG2pE
  F148MVs0JFMwJGgnAGcmAFs5D1kpAH4dEWgYHXkAAHIAAE4AAEQAADgAACwAACUAAB0AAAkAAAAAA
  CQODyQJACMDAAOTGAwSFR8PBhMCAAkAAAAAAD9WZDZWZi9SZjpTXzJMWSBEVHBOP2VIOWNFOWBIM3
 xZInVGL31AI15GMXhPGVU9M1I3MUg5NkQ7N1I1L1UyI0gpI3o1E3Y2FWIzG30rAF44EUkjGkc7D1Q
kCXAaAE0VAFkNADA1NyozOSgxNSgpKiYsLjAiHyMdHyIYFigWEz4eDz0TACIRDyMPDiYAAAwSFAwO
 LAAAAAAgACAABwjJAAEIHEiQYI6DOQoqXMgQocOEDCMafEhRYkSKGA9anJgx48aOIBE2DE1SI8eM+
FKqxAfy5MOU/2LK/JfS40CUM3PGZFnxJkV8OoPydOgyB1CZK1XOHGpS4E+kTI0epfnQ5dSaP68S9Y
1QK8IbDr02BfASaUexEJ2GNYtz51a1XdliRGtV7103IrkevBp1L129e6G+RJuWbFmoSZdWBRw4aM6
+RRs7ptoTblahfccaRpk0s2bGJfNKDP32Y+iNC0mivohxtenPDAMCADs=]]></interface>
       <code language="JavaScript">
            <![CDATA[]]>
       </code>
       <activationCode language="JavaScript">
            <![CDATA[]]>
       </activationCode>
 </componentDefinition>
```

exemplary component definition - ComponentGif

Figure 63

```
<?xml version="1.0"?>
    <componentDefinition>
             <identification>
                     <name value="componentFileListXML"/>
                     <type value="normal"/>
             </identification>
             <relatives>
             </relatives>
             <struct>
                     <reference value="this"/>
            </struct>
            cproperties>
            properties>
            <data type="none">
                     <![CDATA[]]>
            </data>
            <interface type="text/xsl">
                     <![CDATA[
   <xsl:stylesheet xmlns:xsl="http://www.w3.org/1999/XSL/Transform" version="1.0">
            <xsl:output method="html"/>
        <xsl:template match="/">
            <xsl:for-each select="/filelist/file">
                 <xsl:sort select="fullfilename"/>
                 <!--sorted within grouping-->
                <!--member distinctions-->
                         <font color="#000000" size="1" face="Arial, Helvetica">
                         <xsl:element name="a">
                              <xsl:attribute name="href">
                              <xsl:text>/servlet/Future4?cid=</xsl:text>
                                  <xsl:value-of select="filename"/>
                              </ri>
                             <xsl:value-of select="filename"/>
                         </r></xsl:element>
                         </font>
                         <br/>
                </xsl:for-each>
            </xsl:template>
]]>
       </interface>
       <code language="JavaScript">
           <![CDATA[
           // @API
           var xmlString = API.getFileListingXML("", "xml");
            API.setComponentData(cID, "text/xml", xmlString);
           ]]>
       </code>
       <activationCode language="JavaScript">
           <![CDATA[]]>
       </activationCode>
   </componentDefinition>
```

exemplary component definition - ComponentFileListXML

Figure 64